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ABSTRACT

TAFE (Technical and Further Education) is a multifaceted educational organization in Australia and few people in it, and even fewer outside, know about all its aspects outside their own areas of interest and expertise. This book provides information about some current aspects of TAFE, intended to give a broad perspective on 12 different issues. The following papers are included in the book: "The Influence of the Kangan Philosophy on Australian TAFE," by Leslie Claydon; "Attrition and Retention in TAFE," by Joy Cumming and Peter Mountney; "External Studies in TAFE," by Roy Farren; "A Review of Competency-Based Occupational Education," by Roger Harris and Robyn Schutte; "Educational Media in TAFE," by Brian Kenworthy; "Career Paths of Tradespersons," by Lucio Krbavac; "Curriculum Development in TAFE Trade Courses," by David Laird; "Curriculum Evaluation in TAFE," by David Mitchell; "TAFE Staff Development," by David Snewin; "Options for the Evaluation of TAFE Colleges," by Peter Thomson; "Access to TAFE for Disabled Persons," by Elaine Walker; and "The TAFE Transition Program," by Greg Woodburne. (KC)

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ISSUES IN TAFE

Peter Mountney
Pauline Mageean
(Editors)

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PREFACE

TAFE is a multifaceted educational organisation and few people within it, and even fewer outside, know about all the aspects of TAFE outside their own areas of interest and expertise. Graham Hermann, the first Executive Director of the TAFE National Centre for Reseach and Development, initiated the idea of publishing a collection of papers which would describe a wide variety of areas of TAFE. The editors gratefully acknowledge Mr. Hermann's assistance in the initial stages of Issues in TAFE.

The book provides information about some current aspects of TAFE. It is hoped the papers will give a broad perspective on twelve different 'issues in TAFE'.

The papers were written by experts from a wide variety of organisations. The views expressed are the personal views of the contributors and do not necessarily reflect those of the Board or staff of the TAFE National Centre for Research and Development.

Another TAFE National Centre publication, the Australian Journal of TAFE Research and Development, edited by Kevin Parkinson, will contain, among other items, articles of a similar nature to those of this book. It is anticipated that the first edition of the journal will be published by November 1985. Comments about articles in Issues in TAFE and suggestions for future articles for the journal, are invited from readers. Please address correspondence to:

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Our thanks are given to the writers for their articles and their forbearance when there was a midstream change of editor. Thanks are also due to in-house editor Margaret Cominos for her assistance and to Janine Forster and Susan Butters for their assistance with word processing.

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THE INFLUENCE OF THE KANGAN PHILOSOPHY ON AUSTRALIAN TAFE

BY LESLIE CLAYDON

The committee presided over by Myer Kangan in 1974 initiated a number of vital concepts in search of action, as a re-reading of McKenzie and Wilkins (1979) serves to confirm. Ten years on, it is important both to assess the progress of the search and to re-evaluate the concepts. We live in quite different economic and industrial contexts from those prevailing when the committee was at work.

One is tempted to accept the contention of McKenzie and Wilkins that events subsequent to 1974 determined that the search for processes to activate the Kangan concepts has been consistently bedevilled by 'constant interruption, half-starts and disruptions' (p. 5). To some considerable extent such misfortunes can be explained by governmental ineptitude or mean-mindedness; but the jerky progress towards implementing the recommendations of the report which have been generally approved is not completely accounted for by this. In 1974 it was not straightforwardly apparent even to experts that changes of enormous and lasting significance were about to overtake the work-world from which the great bulk of TAFE students are drawn. Yet, less than a decade later, few people missed the point of the barbed inscription scrawled on a Melbourne wall: 'If they've got no bread let 'em eat micro-chips'. Books with such titles as *The collapse of work* (Jenkins & Sherman, 1979) and *World out of work* (Merritt, 1982) serve as equally forceful heralds of change. Kangan's remark that TAFE enrolments will 'increase by more than a quarter over the 1973 enrolments and . . . be 700,000 by 1991' (McKenzie & Wilkins, p. 9) is not necessarily thus falsified but the nature of the enrolments and the purpose that inspires them may be very different from a perspective which saw education as a relatively safe route to life-long employment and so sought access to it or more of it. The evidence in the books by Jenkins and Sherman (1979) and Merritt (1982) and many other publications indicated that if the projected student increase did eventuate then it would incorporate new groups with different needs and expectations from those which could have been envisaged with any confidence in the period before 1974.

Indeed, several reports later than Kangan, some, even contemporary with the books of 1979 and beyond cited above, show some confusion about industrial prospects rather than a clear change of view. One may cite the report by the Australian Science and Technology Council of February 1978 made to the prime minister of the day. In its volume of Summary and Recommendations it states:

> The metal products and machinery industry . . . could be helped by improved technology transfer and co-operative R & D. (Para. 1.5.11)

In October 1983 the Metal Trades Industry Association announced that the number of indentured apprentices in all metal trades was down by 53 per cent since the same month in 1982, the downturn in fitting and machining apprenticeships being 19.5 per cent. Rather than lack of technology transfer and co-operative R & D, this may simply reflect the situation suggested by Jenkins and Sherman, namely that economic and industrial well-being will henceforth be in inverse proportion to the size of the work-force engaged. It is doubtful that ASTEC considered this. One may also recall the Myers Report on Technological Change in Australia (1930). (Though few do it seems: in a debate of 1 December, 1983 in the House of Representatives this four volume document was described as 'having sunk like a stone'.) The Myers Report does provide a clearer view from the new perspective than ASTEC.

> The essence of the concern is that the emerging technologies enable machines to do jobs that are now done by people. (Para. 1.2, Vol. 1)
>
> Other groups . . . claim . . . that the new jobs will require skills that the people who were displaced from the old jobs don't have and are unlikely to acquire. (Para. 1.4, Vol. 1)

In this report there is some anticipation of a structural reality which would produce the result between August 1980 and March 1983 that the number of skilled workers displaced from the electrical and engineering sectors of industry in Australia would treble.

But there is shortsightedness in the Myers Report also.

> In considering the effects of technological change in the recent past, the committee cannot find evidence that the current high level of unemployment is attributable to technological change. (Para 7.12, Vol 1)

The committee was perhaps somewhat selective in its direction of regard. It will not do to consider Australia and ignore the world when examining technology or anything else. In 1975, 700,000 Mazda cars were produced by 37,000 Japanese workers. In 1982, 1,500,000 vehicles were produced by 28,000 workers. In seven years production rose by 100 per cent while the workforce diminished by 25 per cent. Some signs of this trend were surely available when the committee was gathering evidence.

The lapse is redressed shortly afterwards in the report. The following is recommended as a response to changing conditions in world markets and the Australian employment situation consequent upon technological innovations.

- [P]eople who are likely to be affected by technological change [should be] properly informed and consulted.
- [A] social safety net [should be] provided to assist people to adapt to change. (Para. 7.22, Vol. 1)

Plainly there is a role for TAFE to play in providing such a 'safety net'. The world-wide shift of emphasis and change of need in industry must be reflected in instructional systems if a society is to benefit from technological change or at least survive it without great damage to large groups within itself. In part this does involve a reaffirmation of the importance of the Kangan concepts of access and recurrent education. But the interpretation of both concepts must yield courses appropriate to the emerging situation as a whole. This will involve new course construction to cater for those not certain of work as well as adaptation of existing courses to accord with new work processes. If this does not occur then Mackie's scepticism when he talked of an unholy alliance between TAFE and industry will be justified. It will be recalled that Mackie lamented the romanticism of the Kangan Report on the grounds that:

> . . . liberal education reforms of this type are doomed to founder in an economic and industrial milieu that is rooted in exploitation and alienation. (Mackie, cited in McKenzie & Wilkins, 1979, p. 61)

Mackie wrote this when unemployment was at 5 per cent. At the time this was dramatic enough as a figure to warrant critical comment. As the figures provided in Professor Karmel's theme address to the conference on 'Future priorities in TAFE' held in Canberra in 1982 indicate, such a rate would now be considered a matter for jubilation. The structure of TAFE at all levels must reflect the fact that double that percentage is now the benchmark.

The issue, then, is whether TAFE is inevitably reactive in its stance, that is to say, whether TAFE is bound to replicate what Mackie calls 'the relationships of dominance and subordinancy in the economic sphere' (Mackie, cited in McKenzie and Wilkins, 1979, p. 62). When this is the case, TAFE's educational role is restricted. Browne and Macdonald (1981) suggest that the role of TAFE then becomes parasitic upon the functions of other educational institutions. What these other places fail to cover, whether by choice or default, TAFE must provide. The question is whether this secondary role is all that TAFE should seek to fill. Or can TAFE provide educational initiatives to counteract any effects of economic and industrial developments which are detrimental to social health, to the needs, interests and talents of individuals and groups of people who could best be catered for in a TAFE college?

The question is less one of managerial efficiency than of degree of educational potency. Where the first of these is permitted to overshadow the second the subordination of TAFE alleged by Mackie is likely. Attention is diverted from principle in an effort to please the customer. Browne and Macdonald talk of the production of a 'marketing policy'. For example, 'transition courses' that lack finite work outcomes can nevertheless contribute to a cynical amelioration of the unemployment statistics to show that the jobless are not unoccupied. This is not the way to produce the result McKenzie hopes that TAFE will realise,which is to contribute to the formation of

> [A] conscious and participant workforce (highly skilled, motivated, versatile) which can influence the nature of its industrial and social environment. (McKenzie & Wilkins, 1979, p. 81)

Instead, where unemployment is a substantial structural reality, it is TAFE's responsibility to follow the dictum proposed by Jones (1982) to the effect that it is better to be educated and unemployed than uneducated and unemployed.

At a national level, TAFE thinking is entirely compatible with a position that is less dependent upon sectional interests than is the 'reactive to industry' stance. This is clear in the Tertiary Education Commission's triennial report for 1982-1984. It remarks upon the multiplicity of tasks involved in discharging educational responsibilities in respect of a range of groups including people in or preparing for work, people displaced from work, people seeking to enrich their educational backgrounds and those wishing to acquire leisure time interests.

These groupings are worthy of scrutiny as an organisational framework (once the primacy of educational principle over managerial expediency is established). Whatever scheme of course classification is adopted within TAFE there are no watertight compartments of educational need so that a person must invariably drop tidily into one category to the exclusion of all others. Courses designed to cater for leisure interests may attract students who can see no other way to gain competencies which might enhance otherwise bleak prospects of employment. (A group of teachers in Newport College of TAFE in Melbourne has confirmed this as a possibility in a study to be completed in 1984.) There are important considerations about course funding and other aspects of course maintenance which could seriously distort educational process in the absence of this realisation.

There are fears that the situation described immediately above represents more an albatross of responsibilities than an embarrassment of riches. Internal contradictions which inevitably arise when such a diversity of ends is to be served produce a tendency towards precisely the iron-bound sectionalisation that is warned against in the preceding paragrapn. In a recent conference on the place of 'life-skills' in TAFE, for example, the audience was drawn very substantially from the non-vocational domains of TAFE teaching. One speaker overtly maintained that much of what Sharlow (1982) had subsumed under this umbrella term was inappropriate to the teaching of courses of a technical nature. Burns' foreword to Sharlow's monograph argues the opposite and maintains that course effectiveness is damaged when this is not conceded.

> [C]urriculum research and development strategies adopted have been too concerned with observable skills directly and obviously related to a particular job and have not addressed important areas essential to a person being able to cope with the broad range of life experiences. (Burns, cited in Sharlow, 1982, p. iii)

This opposition of views typifies the incipient conflict of teaching concerns within TAFE which have produced on the one hand a call for the fixing of a TAFE identity which will make a unity of a fragmented complex and, on the other, recommendations that the dichotomies be recognised as irreconcilable and some separations within the system be brought about to honour the differences of interest and emphasis involved.

A further reason is now revealed for making our agreement with the critique in McKenzie and Wilkins on the progress of TAFE more sophisticated.

'Half-starts and disruptions' are to be expected in as complicated an institution as this, especially (but not only) when governmental vagaries, economic stringencies and the shock of technological change are also experienced. A decade is a short time under these conditions. Institutions, like social groups, are by nature conserving agencies protective of whatever it is they have so far relied upon for their continuance. In an important sense they are therefore past-oriented. They build upon established practice.

This is not necessarily bad. It does not mean that TAFE must be backward-looking, blind to impending change of circumstance. It means only that there is a danger to avoid, patience to be exercised and persistence to be maintained. That much of the subsequent literature on TAFE simply reaffirms what is to be found in that seminal report of 1974 indicates persistence. But what is to be said of the danger of sliding into a state of inertia where apathy replaces patience and reaction rules? It is easy enough to point to particular developments in one State or another or in one college here and another elsewhere. The move in some States to grant credit towards apprenticeship for certain courses taken before the student has been indentured may be cited as a contribution to that modification of the apprenticeship system argued to be necessary in much TAFE thinking since 1974. A considerable amount of research activity by TAFE personnel has now been recorded; work such as Taylor's (1983) on prediction of performance or that of the teacher team at Footscray College on TAFE student characteristics are but two examples of a host of studies. All this points to constructive action after Kangan.

A distinction akin to that between the reactive and what has been (somewhat mysteriously) termed the proactive stance can be made in respect of research in TAFE. Besides the ongoing examination of existing practice in the light of disciplined analysis of data which serves the search for processes to activate the Kangan concepts, there is work of a formative nature which consists in the fashioning and trialling of new practices to meet altered conditions. Work such as the study which provided a detailed analysis of 'the range and types of teaching functions undertaken by TAFE teachers in Western Australia (and) job profiles of different specialist teachers' (Gate & Ryan, 1980) exemplifies the first category. The second is indicated by the curriculum project in the Division of Mechanical Technology of the Royal

Melbourne Institute of Technology Technical College, in which a new course will be taught jointly by staff from several sections of the college, including the Humanities Division. The innovation seeks in part to test the validity of the case for the inclusion of life skills in technical courses in the debate alluded to earlier in this paper. The intention is to 'increase the person's capacity to select wisely from changing life options in a technological age [by] enhancing the student's awareness of the social and vocational implications of technological development'. (Unpublished course document, 1983).

Formative developments of this latter kind are crucially necessary as a complement and extension to research into what is already in place. It is also important that they occur within TAFE institutions themselves and be conducted by practising TAFE teachers. If all such thinking and all such proposals are generated from a distance by people not involved in the day to day affairs of a TAFE college, then the 'ordinary' TAFE teacher comes to feel both excluded from, and absolved of responsibility for educational initiative. The passivity and dependence thus encouraged materially increases the danger of a retreat into reaction.

Of course, isolated and disconnected developments in single establishments arising without reference to any common policy and in the light of purely parochial concerns would lead to an extreme of fragmentation which would make nonsense of TAFE as a national entity. Fortunately the nexus of concepts arising from Kangan has done much to inspire organisational barriers to such a distintegration. It would not be too fanciful, for example, to say that TAFE as a whole has addressed the issue of access in relation to disadvantage across the spectrum of State systems and individual colleges. It would be a rare college that has mounted no initiative with special reference to the issue of educational opportunity for women. The same can be said about the blemish of unemployed youth and the under-equipped school-leaver. (The last named groups may now figure in the debate over the many-sidedness of TAFE. While it can be argued that the Federal Government's Participation and Equity Programme (PEP) should not obviate the need for courses such as EPUY in TAFE, alternatively, it can be argued that in future the 'transition' stage for all youth should be catered for by retaining them in school until Year 12. However, a counter case can also be made, arguing that these groups are best catered for as young entrants to an adult institution rather than as the oldest among a community of the immature. In an Australian Broadcasting Commision broadcast of 15 December 1983, Senator Ryan, the Minister of Education and Youth

Affairs in the Federal Government, appeared to strike something of a compromise in this matter. She suggested that TAFE should take on students for pre-apprenticeship courses after the school had taken them through appropriate work-readiness programs up to Year 12).

However, much remains to be done in terms of the status and the secure incorporation of successful innovations across TAFE as a whole. And much remains to be done, according to Hawke and Sweet, before the two kinds of research activity mentioned previously are operating over a comprehensive range of TAFE programs in a way which optimally advances progress in terms of the Kangan intentions. Hawke and Sweet point out that the Kangan concept of open access is one which has significance for social reform as well as for benefit to individuals and that these two purposes are not of necessity served when the latter is achieved.

> Many of the innovative programs developed could arguably be said to be cosmetic in their effect; for example, they are almost exclusively located in Stream 6 and thus frequently carry limited external recognition or accreditation. Completing such courses, while it may be of value to the individual, does little to change the social inequalities which are often the original motivators for the programs. (Hawke & Sweet, 1983, p. 14)

Something like the same conclusion to this was reached by Mellors (1983) in his study of students taking 'off-campus' courses from a Melbourne TAFE college. It will be remembered that Professor Byrne of the University of Queensland in her paper to the National TAFE Conference 1982 convincingly demonstrated the pressing need for distance education if people living outside urban centres were to benefit from TAFE as fully as those living within reach of colleges. The point may be extended to include those who, although living in large cities, reside in districts expensively remote from TAFE institutions in terms both of time and money. Mellors examined this proposition as it applied to his student census. He found that most students did not live long distances from a TAFE college. Secondly his data showed a very low student retention rate. Finally his investigation indicated that students enrolling for off-campus studies did not appear to be people who would not otherwise enrol. Increased access to TAFE as defined by Hawke and Sweet was, therefore, not achieved to any great extent. This does not show that there is no need to widen access but only that, in this case at least, a process designed largely to meet such a need was unsuccessful.

The coincidence of view between Mellors, and Hawke and Sweet revolves around this existence of need and lack of effective response. In both pieces of work the issue is that the particular target group aimed for is still inadequately served. The problem seems to occur in a number of contexts. Important among them is that of recurrent education. Buxton and Keating (1982) point out that this concept has not been easily assimilated into TAFE practice. Yet it was given prominence in the Kangan Report as an 'integrating principle' (Kangan, 1974) which should inform a TAFE restructuring and extension. Buxton and Keating quote from Richardson in the second ACOTAFE report (1975) which re-affirms the significance of the concept in the thought of those working at national level. Recurrent education is stated to provide the alternative to the 'end-on' process which is established in our educational framework. Buxton and Keating argue, in accord with the case presented by Hawke and Sweet, that: the notion of recurrent education has tended to become accommodated within the area of the 'non-vocational, non-credit and relatively informal' that is adult education which is of undoubted value to 'predominantly middle class people with "interests" or (a desire for) enrichment'. They continue as follows:

> [This] has not met the needs of working people for retraining, nor has it really reached out to the many disadvantaged groups in Australian communities. (p. 7)

Later in their paper they point out that if this remains the condition in TAFE, then the needs of the economy will remain unsatisfied. Only by systematic retraining can it adjust rapidly to drastically altered industrial processes and to the consequences of the increasing market and technological dominance of nations which were once themselves dependent upon others for manufactured goods and industrial 'know-how'. It is, by now, clearly evident that 'one shot' training will not serve the individual worker well nor supply industry (including primary industry) with an appropriately skilled workforce. If, therefore, it was a matter of determining which process task has priority in TAFE, the creation of a comprehensive pattern of recurrent education must surely lead the field. Were it to be seriously accorded that priority in all TAFE institutions, then it would certainly assume the reformative role Kangan envisaged for it.

All of which indicates that a national initiative in recurrent education would be a fitting way to mark the first decade of TAFE since Kangan. Essential to the enterprise would be a means of monitoring, co-ordinating and supporting the innovations which would eventuate and for the provision of a forum for the discussion of outcomes. Happily these are already in existence. The TAFE National Centre for Research and Development has steadily developed as a growth point for projects of many kinds. Situated in Payneham, South Australia, it is now funding a range of these in numbers of TAFE institutions throughout the country, as well as conducting in-house projects itself.

It sponsors periodic seminars which provide substantial impetus to further developments. It also accommodates the National TAFE Clearinghouse which is responsible for the dissemination of information about research and development in TAFE through publications such as Initiatives in Technical and Further Education and TAFE Projects in Progress.

The Centre has limited staffing. Plainly this severely restricts the scope of research it can undertake in its own right. There seems no question about the value of the Centre as a vehicle for the development of coherent policy founded upon widespread and competent analysis of needs. The issue is rather as to whether its resource level in terms both of 'in-house' expertise and of potential to fund projects beyond itself is large enough to be cost effective.

In a review of TAFE operations, Hermann (1982) compares the funding of TAFE with the way in which other post-school education systems in Australia are funded. This is obviously important. However, of equal significance is the differential funding that can occur within the TAFE system itself. This is especially true where the basis of staff continuation is involved.

There are delicate decisions to be made in this area. Once more, there is some danger that managerial expediency might be permitted to overshadow educational principle. There is a second possibility that the same expediency will be straightforwardly equated with 'meeting the needs of industry'. But the most popular course is not of necessity the one which presages an emergent trend in work patterns, nor is the practice of basing a system's expenditure solely on prevalence of demand one which accords with an approach other than the reactive. TAFE has sometimes been cast in the role of Cinderella, underpaid and overworked, yet the best and fairest of them all. Cinderella exercised her own initiatives and so won support from the fairy godmother. She did not waste her time in protest that she was unappreciated. TAFE must do likewise.

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ATTRITION AND RETENTION IN TAFE

BY JOY CUMMING AND PETER MOUNTNEY

INTRODUCTION

The attrition of students from learning institutions has long been acknowledged as a major problem although, today, there is an increased awareness of the costs of attrition, both to students and institutions. Most students who withdraw have wasted time and money and for them the negative college experience may mean discouragement from further learning endeavours. It is acknowledged, however, that some students may achieve their objective without necessarily completing a set study program and, for them, withdrawing is not a negative experience.

Previous research on attrition brings to focus many of the major aspects that relate to the activities of teaching institutions and to the characteristics of the students themselves. Some of the institutional factors considered likely to affect students are: admission procedures, the public 'image' of the institution, the organisation of timetables, the morale and quality of teaching staff, the quality of learning resources, the nature of teaching, the level and quality of administrative support, and the nature of the curriculum. Research has also investigated student-based factors such as intellectual ability, learning style, career ambitions, examination performance, motivation, study habits, coping abilities, personality, age, the sex of the student, and even religion.

However, with a commitment to open access to learning, TAFE Authorities in Australia generally do not preselect students on such factors in order to reduce student attrition. Instead, the strategies employed by TAFE Authorities to improve student retention must encompass institutional related factors, while at the same time providing support and learning activities to facilitate student progress. Such suggestions are not new; the Kangan Report (1975) explicitly emphasisied provision of facilities and curricula which enable student learning at all levels of technical and further education. The Report states:

> The main purpose of education is the betterment and development of individual people and their contribution to the good of the community. Technical and further education should be planned accordingly.

> Emphasis on the needs of the individual should lead to easier access to learning, to better physical conditions for learning, to suitable student and teacher amenities, to welfare facilities, and to the highest standards of health and safety in workshops and laboratories.
>
> Strong emphasis should be placed on unrestricted access to recurrent education. The colleges should extend preparatory courses, transfer courses and other help to enable adults to attempt the level of vocational education they desire, including the making good of omissions or deficiencies related to primary and secondary schooling. There should be unrestricted access to assessments of knowledge and skills for the purpose of gaining formal qualifications, irrespective of where or how the individual prepared himself. Entry requirements should be progressively eased. (p. 21)

It must be stressed that **attrition** is not the issue in TAFE; **retention** is. However, in order to improve student retention in educational institutions, the reasons for student withdrawal must be investigated. A considerable number of studies have been undertaken over the last decades investigating factors, both student and institutional, affecting student withdrawal.

These research studies on attrition have predominantly been conducted in two and four year post-secondary colleges in the United States using students enrolled in (or who have withdrawn from) full-time courses. Relatively little substantial research on student attrition has been conducted in Britain and Australia, particularly research dealing with part-time students.

To interpret the results of the research that has been undertaken, definitions of the common terms associated with attrition and retention should be considered.

DEFINITIONS

For some researchers, attrition, dropping out and student withdrawal are regarded as synonymous terms, although Malley (1981) suggests there is a variety of factors influencing the meanings attached to these words. For example, he believes that whether the user is speaking from an institutional, educational system, individual, or society-at-large point of view could determine what meaning is intended (p. 21). However, the heightened interest in attrition and retention has expanded the terminology, enabling researchers to distinguish different types of student withdrawal behaviour. The most frequently used terms are:

attainer - one who withdraws before completing a course of study but after attaining a personal goal such as a limited course of study, skill acquisition, or employment.

attrition - that which occurs when a student discontinues a program of study without completing it.

dropout - one who discontinues a program of study and does not return for additional study at any time.

persister - one who continues enrolment in a program of study without interruption.

retention - that which occurs when students complete, continue, or resume their studies.

stopout - one who discontinues a program of study for a period of time but subsequently returns for additional study.

Confusion could easily arise from an indiscriminate use of such terms and, therefore, Pantages and Creedon (1978) observed that it is extremely important for researchers to reach a consensus in the manner in which the critical groups in attrition research are to be defined. The definition of terms affects the study's usefulness to other researchers and educators and the validity of combining the findings from separate studies depends, in part, on how attrition was operationally defined in those studies. Panos and Astin (1968) concluded that the results of many attrition studies are not comparable because they in fact deal with different phenomena.

RESEARCH FINDINGS ON ATTRITION

Methodological issues

It is difficult to generalise the findings from studies of attrition and retention. Lenning, Beal and Sauer (1980) noted that most of the research provides descriptive studies about individual institutions. Critics have noted that most studies rely heavily on ex-post-facto methodology, looking at the characteristics of students after they have withdrawn in order to determine what factors may have caused their withdrawal (Marks, 1967). Many studies rely on information about only the persisters or the withdrawers without comparing the characteristics of both, and Gekowski and Schwartz (1961) have suggested that findings from studies without control groups should be interpreted with caution.

An additional methodological problem inherent in such studies is the unreliability of self-report measures used with students who have withdrawn from courses. Some students may prefer to conceal personal problems and give socially acceptable answers while other students may not fully understand their reasons for withdrawal. It is most likely that withdrawal will result from a combination of factors, rather that from one single factor; since research tends to support the hypothesis that many of the problems encountered by students who withdraw are also shared by students who persist (Hackman & Dysinger, 1970).

Research studies of student attrition and retention should ideally be longitudinal (Jex & Merril, 1962). This enables closer monitoring of the overall enrolment pattern of students, for example if, after withdrawal, they re-enrol at the same or another institution. If withdrawal is diagnosed at the time of its occurrence, the reasons a student gives for withdrawal should be more reliable than in a delayed ex-post-facto design.

Styles of studies

Theoretical models

Previous attrition studies are criticised for their lack of theoretical framework. Tinto (1975) and Spady (1971) both hypothesised a theory of student attrition based on Durkheim's theory of suicide. They considered the student who withdraws to be a person less likely to be socially integrated within the learning community. Research studies have specifically tested the hypotheses of Spady and Tinto. Spady included in his Durkheimian model such factors as the student's family background which he suggested might also be related to student attrition. Tinto's model placed more emphasis on the college setting, student performance and strength of the student's goal commitment.

Study of student factors

Other research studies on attrition have investigated characteristics of students or institutions or the interaction between these. The designs used lack theoretical validity and are criticised for the ad hoc selection and omission of variables for study (Boesen, 1976). The studies, however, still provide useful information on some of the correlates of student attrition and retention.

Trent and Medsker (1968) studied more than 10,000 students from several states in the United States over a period of six years. Their findings suggested that college persisters entered college with an attitudinal predisposition that enhanced their development in college, but this disposition was not evidenced in students who withdrew. The study also indicated that irrespective of ability and socio-economic status, persisters (1) were more intent on attending and graduating from college; (2) were more selective in choosing their institution; (3) saw more reasons for attending college; (4) studied harder; (5) were less prone to allow social life to interfere with their studies; and (6) tended to be more intellectual, self-reliant, and open-minded than were the students who withdrew. These results support Tinto's theory that one of the major factors in survival is goal-commitment.

Astin (1975) undertook a study of more than 41,000 undergraduates in the United States drawn from 358 two-year and four-year colleges and universities considered representative of all higher education institutions in the country. Students were administered questionnaires in their first and fourth years and entrance examination results were also recorded. Some of the variables which Astin concluded to be related to student attrition are: poor high school academic results, low aspiration, poor study habits, relatively uneducated parents, age, religion, and small town backgrounds.

Although TAFE endeavours to provide appropriate educational experiences, not many of these factors are within the mandate of TAFE to alter, but perhaps overall, the factors focus on low motivation and low expectations of both male and female withdrawers who had poorer self-concepts than their persisting counterparts.

Some American studies have found that women have different or additional factors influencing their decision to withdraw compared to men. Terry (1972) and Astin (1975) both found that women who were married or planned to marry were more likely to withdraw, while Astin showed that married male students were more likely to continue. Pantages and Creedon (1978) concluded from a review of five studies that personal factors were perceived as influencing most female students who withdrew, while curricular factors were perceived as influencing male students. Iffert

(1975), however, found no significant difference in the overall attrition rates of women and men.

Research investigating the relationship between attrition and socio-economic factors has provided equivocal results. One of the problems related to conducting research into the influence of socio-economic factors on attrition is methodological. Not only are socio-economic factors difficult to define, but also most research is based on studies of single institutions which in the United States are likely to have student populations relatively homogeneous with respect to socio-economic factors. (Eckland, 1965)

A similar methodological problem exists in the research on the effect of student motivation and psychological disposition on attrition. The problem for studies considering motivation is the difficulty of determining which motivational factors are predictive of persistence and how to measure accurately these motives once they are known. Marks (1967) attempted to measure motivational level in terms of the students' own expectations about their chances of withdrawing. His findings indicated that these expectations are related to the students' level of aspiration, fear of failure, and parental attitudes. Marks also found that those students who expect to withdraw actually do withdraw in significantly high percentages; there is no correlation between the expectation of withdrawing and the student's scholastic ability; and those students who withdrew had difficulty resolving conflicts concerning their commitment to educational values.

Institutional factors

Although most research studies on attrition have focused on an individual institutional setting, some studies have tried to relate retention and attrition to generalised college factors.

Pace (1962) and Stern (1963) initially assessed college environment by means of two questionnaires, the College Characteristics Index (CCI) as a measure of environmental press and the Activities Index (AI), as a measure of student needs. Astin and Holland (1976) have developed a measure called the Environment Assessment Technique (EAT). Like Pace and Stern, Astin and Holland found that it was difficult to make any significant causal inferences from previous college environmental studies because no provision was made for interaction between student characteristics and the college environment.

Different types of institutions have different images and therefore appeal to different types of students. The more congruence there is between the student's values, goals and attitudes and those of the college, the more likely it is that the student will persist at the college.

Starr, Betz and Menne (1972) reported that the college student seeks to achieve and maintain a congruence with the institutional environment. The students, according to Starr, Betz and Menne, bring certain skills to the environment that will enable them to meet the academic and social requirements (press) of the institution. When the students' skills are sufficient to meet these requirements, the students and the environment are correspondent and they will, in all likelihood, persist at that institution.

With regard to research on the effects of college size on attrition, Feldman and Newcomb (1969) reported that large institutions: (1) reduce the students' confidence in themselves in terms of their social acceptability and scholastic ability; (2) are less likely to be regarded by the students as friendly and cohesive communities; and (3) promote less contact between students and teaching staff. All of these factors, they point out, contribute to increasing student dissatisfaction with the institution and thus make student withdrawal more probable. Studies have shown that students who withdrew were more dissatisfied than persisters with their relationship with their teachers, and experienced a barrier between themselves and their teachers that prohibited close contact (Hannah, 1969). Lenning, Beal & Sauer (1980) refer to research by Grites (1979) who points out that the recruitment and admission processes of colleges are crucial factors in determining retention, and that trained academic advisors should become integral parts of those processes. Grites writes:

> As advisors find out more about student involvement, and course selections, they will, in turn become significant adults; as they become appraised of and gather certain information about their students, they will be better able to provide the kind of assistance needed to improve retention. The academic advisor is an integral component of admission and retention programs, and such a resource should not be left unused, since those who are not working for retention are, in fact, working against it. (Cited in Lenning, Beal & Sauer, 1980, p. 62)

The role of counselling

Many studies indicate that counselling services can increase persistence but many students tend not to use such services. Kamens (1972), for example, found that Stanford University students who used academic counselling support services persisted better than those who did not use them. He also reported that those students who used psychiatric counselling services had a greater attrition rate than those who received academic counselling.

By far the majority of the recommendations for improving retention have been concerned with enlarging the role and scope of counselling services for students following enrolment. Several studies have indicated that students who withdrew have reported dissatisfaction with the college's counselling facilities and suggested that improvement of those services could have influenced their decision to withdraw (Hannah, 1969). One method of increasing contact between students and counsellors is the requirement of an exit-interview as a procedural step in the withdrawal process (e.g., Gekowski & Schwartz, 1961). Although Hannah hyphothesised that by the time students have such an interview, their plans are firm and therefore difficult to alter, some studies suggest that this is not the case. Barger and Hall (1964) found that those students who withdraw earlier in the college year are more tentative in their decision to withdraw, and suggested that a mandatory exit interview could persuade at least some of them to remain in college while they worked out their problems or indecision with a counsellor.

Financial factors

A number of studies have been conducted to determine the effect of student employment and financial aid on attrition. Lenning, Beal and Sauer (1980) cite research conducted by Astin who reported that part-time employment correlates positively with persistence—especially when (1) the job is under 25 hours per week; (2) the job is on campus; (3) the student starts work in the first year of study; and (4) the student receives little or no other financial support. Scholarships and grants appear to increase persistence slightly. For example, Nelson (1966) found that the percentages of students awarded scholarships are positively related to retention while reliance on loans generally decreases persistence.

Part-time students

An issue of major concern to TAFE is the withdrawal rate of part-time students. As has been noted, however, research on attrition has predominantly concentrated on full-time students although some of the special factors associated with attrition of part-time students have been identified in research.

Walleri (1981) reports that research on the part-time student suggests that part-time students are less likely to make use of counselling and other services; part-time students are the least likely to become intimately involved in campus and academic life, and for many part-time students, education is low on their list of priorities, trailing family, work and other responsibilities and obligations. The part-time student is more likely than a full-time student to withdraw and the teaching institution has limited capabilities for influencing the decision. In meeting the needs of the part-time student Walleri suggests that it is important to distinguish between types of students. For example, enrolment in community education and occupational upgrading courses will by its nature be selective and discontinuous. The part-time student pursuing a long-term objective, such as a degree or the skills necessary for a particular career field, is a different matter. Factors associated with success in meeting such goals are likely to be quite different from those for the full-time student. Flexible timetabling and the development of alternative modes of delivering education are more likely to be effective for the retention of the part-time student than the retention factors associated with the persistence of full-time students (Ross, 1982).

Withdrawal process

Chickering and Hannah (1969) and Hannah (1969) found that withdrawing students first discussed their plans with friends and parents, and any discussion with teaching staff or college personnel occurred much later in the withdrawal process, usually at the point of initiating the official withdrawal process.

Both studies found that withdrawing students generally felt that their discussions with teaching staff or counsellors were valuable. However, since these discussions occurred after the students had already decided to withdraw, they had little effect in persuading the students to re-evaluate their decisions.

There is general agreement in the attrition literature that most attrition occurs during the first year and before the beginning of the second (Eckland, 1964; Summerskill, 1962). Barger and Hall (1964) suggest that the end-of-semester periods are characterised by stress and anxiety for the student. They further suggest that the actual decision to withdraw is made when away from college, usually just after those stressful periods when feelings of relief are high, and the pressure to re-enrol is low. It is at this time that non-college influences on the student are strongest.

Eckland (1964) over a period of ten years followed the careers of students who had withdrawn, and found that 70% of the students who withdrew eventually re-enrolled. Studying the relationship between withdrawing and re-enrolling he found that the chances of returning to college become progressively better the longer the student was enrolled in college before withdrawing.

Research indicates that the final decision to withdraw from college is generally the result of much deliberation over a period of time and is not, in most cases, an impulsive decision. The period of time before the student makes a final decision to withdraw is an ideal time to intervene with a counselling program to help make the decision that is best for the student. The problem colleges face is how to devise programs that enable college personnel to get involved in the withdrawal process at an earlier stage.

RESEARCH IN THE AUSTRALIAN CONTEXT

Research into student attrition in Australian institutions has followed the trends of research overseas in investigating the characteristics of students as the principal cause of attrition. Only recently have research models started to include student motivation and learning factors in relation to attrition. Gilbert (1973) investigated student wastage in the Electrical Engineering Certificate Course of the New South Wales Department of Technical Education. The study focused on student 'wastage' which was considered a broader concept than attrition including students who fail as well as students who withdraw. Gilbert looked at records of student achievement as well as questionnaire and interview information to ascertain the reasons for students' 'wastage'. His conceptual model emphasised the need to look beyond the retention of students in the college towards their productivity in employment. The conceptual model of factors influencing educational wastage included student and teacher characteristics, facilities, curriculum, assessment and workload, and attendance. It did not include underlying learning or motivational factors. One of Gilbert's most important findings was that academic failure was not necessarily the reason for student withdrawal. The reasons students gave for their withdrawal were associated with difficulty of the course or other educational factors, employment reasons, personal and social reasons and reasons beyond the student's control (for example, transfer or ill health).

Mitchell (1974) studied student withdrawal from the 1972 and 1973 intakes of the Building Technicians Course at Marleston College of TAFE, South Australia. The study used several approaches to studying attrition but in particular it compared characteristics of persisters and withdrawers with respect to reasons given for withdrawal. Motivation factors were included as well as personal factors. Mitchell found that both persisters and withdrawers experienced loss of motivation, personal discouragement, home problems, lack of educational experience, dissatisfaction with courses and conflict with the course or institution. The factors which discriminated between persisters and withdrawers showed that withdrawers experienced personal study problems and work problems while persisters gained satisfaction from the institution and encouragement. Overall, Mitchell found that withdrawers would have problems spread across a greater range of areas than persisters, and persisters appeared to have a stronger personal framework within which to deal with any problems occurring.

Brougham (1978) investigated attrition in a number of programs at Strathmont College of Further Education, South Australia. The study concentrated on personal or work problems of students who withdrew. One of his findings was that some students withdrew for a positive reason: they had achieved their learning objective. He also found that students who had completed less than ten years schooling had trouble organising study and that course related factors of withdrawal were usually related to content or lack of interest. Naylor and Naylor (1982) undertook a national study of attrition in selected TAFE technician courses. The main sources of information were statistical returns from each State. Although these were not complete for some States, attrition was found to be generally high, 33 to 43 per cent, and highest in a commerce course.

Hermann and Hawke (1980) looked at factors related to the discontinuance of students at technician course level. Two hundred and three full-time and part-time students enrolled in a biology subject completed a questionnaire covering educational background, employment status, age, sex, course and career expectations, and commitment. Achievement tests in chemistry and mathematics and a test of mental ability were also administered. Follow-up questionnaires looked at reasons for withdrawal or persistance.

Their results showed that the amount of prerequisite knowledge of students in the course area was one of the factors most related to student persistence or withdrawal. Withdrawing students cited course-related reasons more frequently than did persisters as affecting their studies. The variables of motivation and commitment as measured by the questionnaires did not generally discriminate between persisters and withdrawers. However, relevant employment especially for part-time students was related to persistence.

Hermann and Hawke concluded that the factors precipitating student withdrawal change as the duration of students' course attendance increases. Different factors will assume importance at different periods. A methodological flaw of research studies to date, even longitudinal ones, has been the consideration of all possible attrition-related variables simultaneously in analyses whereas Hermann and Hawke propose a path analysis model as more suited to attrition research.

Jacobs (1981) investigated attrition from a number of courses at Hobart Technical College. The courses: Business Studies, Industrial Electronics, Horticulture and Higher School Certificate, were identified as having high attrition rates.

A random sample of 50 students who had not attended in the six weeks prior to the date of the survey were located and interviewed about their reasons for enrolment, satisfaction with their courses, and reasons for withdrawal. Jacobs noted that the decision-making process leading to withdrawal was not a complex one, the reasons given were usually simple. Jacobs was able to make specific recommendations about college programs and provisions which could improve student retention in those courses.

Macdonald (1984) investigated students' failure to complete courses, with particular reference to selected TAFE Certificate Courses, drawing upon American college-based research and TAFE studies. She noted the gradual change in emphasis in attrition research from a student-oriented approach to an interactionist perspective that encompassed institutional variables as well as student variables. Allied to this was a growing tendency to see attrition in a more positive light, when, for instance, it was the result of a student attaining a personal goal without feeling the need to graduate.

The Williams Report (1979), recommended improved selection techniques and greater opportunities for students to become more effective learners as ways of improving retention in universities. Similar issues were raised for colleges of advanced education. The recommendations for TAFE, however, focused on maintaining teachers' instructional skills and professional knowledge, flexibility of access, and curricula for TAFE students.

IMPLICATIONS FOR TAFE

Research on attrition in TAFE, and in particular with part-time students, does not reveal evidence greatly different from the main body of attrition research. The additional pressures of work combined with study, the relative youth and educational experience of many TAFE students and the unsuitability of some TAFE programs for more mature and highly educated groups are all factors which relate more closely to attrition in TAFE than in other educational institutions. Students already in employment undertaking additional studies not necessarily leading to promotion or job improvement have less commitment to further education than full-time post-secondary students.

Many studies have failed to include motivational and learning variables in examining attrition. The main conclusion to be drawn from research into attrition is that withdrawal is seldom the result of a single factor but is consistently shown to be due to a combination of factors. As such, attempts to isolate single causal factors or groups of factors are not often useful for the practical concerns of individual colleges.

Future research

Future attrition research could concentrate on three general approaches:

- **Longitudinal studies.** Such studies should extend at least for the duration of one program, and preferably for more than one intake. The research should prespecify a causal model, based on prior research, and include some components of instructional processes, curriculum (e.g. relevance to work), college and student characteristics and competence in prerequisite knowledge, motivation and commitment including the goal of the student on enrolling in the course. The time of withdrawal then becomes a variable or design factor of the study.

- **Intervention studies.** For research purposes the use of a control group contrasted with an experimental group undergoing intervention activities is the ideal, although ethically, TAFE institutions might not want to deny students the benefit of an activity designed to enhance and extend their college experience. However, it may be possible for retention rates to be compared with retention rates in previous years to determine if a significant improvement has resulted.

- **Ethnographic research studies.** Early research has depended to a large extent on the prevailing methodology of large-scale quantitative data collection and analysis. More recent studies have adopted ethnographic research methods, looking at factors affecting the decision-making process of small groups or individuals. This style of research is more suitable for the single institutional setting such as a TAFE college.

Intervention strategies

If it is accepted that the emphasis in TAFE is on retention, not attrition, individual colleges need to implement intervention strategies designed to assist students to remain at college.

The recommendations contained in the attrition literature are wide-ranging but in general include the following:

- Admissions officers should interview applicants and analyse their records for the purpose of determining their potential for persistence.

- Measures designed to reduce attrition should focus primarily (although not exclusively) on first year students, since these are the students most likely to withdraw.

- Comprehensive orientation programs for new students are needed.

- College counselling services need to be better publicised.

- Group and individual counselling on study habits is desirable.

- College researchers and administrators should make far greater use of existing college environment assessment devices, for example to identify those aspects of the environment that create student dissatisfaction.

- Ways to maximise teacher-student interaction should be devised (especially during a student's first year of study).

- For students who withdraw from the college, an exit-interview and follow-up questionnaire would be desirable. Such interviews should provide data on which the college can base future policies designed to reduce attrition.

CONCLUSION

Attrition of students has been acknowledged as a problem for most learning institutions for a considerable time. Many of these institutions are in a position to select students on criteria such as academic performance and motivation in order to reduce attrition. However, several major reports have emphasised that TAFE in Australia is increasingly expected to do the opposite: TAFE is called upon more and more to adapt its programs to any person wanting to undertake vocational training or further education.

While attrition could become a problem for TAFE under these circumstances, public accountability demands that this should not be allowed to occur. Therefore TAFE must identify and implement strategies which are designed to improve student retention.

Previous research on attrition has been shown to investigate institutional factors from environment to processes, and student characteristics such as educational background, intellectual ability, age, sex, and more difficult to define and measure constructs such as motivation and commitment. There has been little attrition research on teachers' characteristics, teaching styles or students' learning styles. It has been suggested that different students might have better 'survival' rates in different institutions and that a match of students and institutions could improve student retention.

Research into the process of withdrawal for students tends to show that most students do not avail themselves of available counselling until too late, if at all. Research and affirmative action programs (e.g. Landis, 1982) have also shown that planned counselling and support activities do improve student retention. In this review, a number of strategies has been identified which, if implemented, in part or in whole, should improve student retention in TAFE in Australia. TAFE, in particular, has a need to examine the match between student ability, academic background and program content. The Kangan Report (1975) and the Williams Report (1979) have both stressed the focus of TAFE in Australia on open access, flexibility of instruction, alternative non-institutional settings and bridging and remedial programs. The very special needs and problems of part-time students, a predominant group in TAFE, must also be met.

All activities to reduce student attrition place greater demands on all TAFE personnel to take an active role in retaining students but the onus is on individual teachers and college principals alike to implement appropriate retention strategies at the college level.

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EXTERNAL STUDIES IN TAFE

BY ROY FARREN

INTRODUCTION

The literature on external studies in TAFE is remarkably sparse, a fact commented upon by Jacobs (1983), and the reasons for this sparsity are not difficult to explain. Until the mid-1970s the literature on external studies (distance education/correspondence education) itself was not abundant and it is only since the establishment of the Open University, which gave external studies a new found respectability in the field of tertiary education, that writers have turned their attention to the documentation of the issues involved. However, educators in the TAFE sector have never felt themselves impelled to express their views in print, particularly as few of them have had the opportunity to engage in research as part of their educational activities. In consequence, though considerable educational development has taken place in TAFE since the latter part of the 1960s, very little of it has been documented, and still less has been published.

An additional problem, in the case of external studies, is that each State in Australia has a single institution serving TAFE external students, and those institutions have not only been isolated from one another by interstate variations in the educational environments in which they operated, but to some extent they have been isolated even within their own educational system by those who held the view that external studies was, at best, a second rate alternative to class attendance, and at worst, an inconvenience which had to be suffered until some means of eliminating it could be found.

Faced with this unsympathetic and often uninterested attitude TAFE external studies institutions tended to become introverted and to direct their energies towards the solving of educational problems, as they perceived them. In addition, there was little opportunity to test, scientifically, the validity of the procedures they developed, because although the number of students served by each institution was large, the number of students enrolled in any particular subject was often insufficient for testing to be statistically reliable.

Nevertheless, it needs to be remembered that substantial numbers of students—more than 100,000 in the period 1939-1945 according to Grimwade et al. (1979)—were served by this system, and one must presume that the success rate was reasonably high, for it to have survived.

Although there are significant differences between the TAFE external studies institutions in each State, there are characteristics of TAFE, as a whole, which are common to the operation of this sector of education throughout Australia, and these basic characteristics play an important part in determining key features in TAFE's external studies operations.

THE TAFE CONTEXT

Technical and Further Education in Australia provides educational opportunities for people seeking technician or para-professional training and also for those who wish to further their general education. It also provides trade training for apprentices and post-trade training for skilled workers. Each year it caters for more than 1,000,000 students, of whom approximately 65,000 are enrolled for external studies. However, even though the total enrolment in the TAFE external studies institutions is large, the number of subjects on offer is also large (approximately 1800) and this means that the number of enrolments in many subjects is quite small, and in some cases very small indeed. Western Australia, for instance, has some 200 subjects with external enrolments of five students, or less, per year.

It might be argued that such small numbers are not viable, in terms of the cost of developing course materials. However, because of the particular training needs of industry there are many courses which, though they attract relatively small numbers of students, are still considered to be essential in terms of the economic consequencecs of a failure to provide trained personnel in particular fields. Many of these courses may have enrolments sufficient to ensure viable class numbers in the early stages, but because of the processes of attrition it may not be possible to assemble sufficient numbers of students to run classes in the latter stage subjects. The students involved, who would otherwise be unable to complete their qualifications, are traditionally catered for through TAFE external studies.

It may well be that, in future, through the efforts of core curricula committees, substantial changes will occur in the number of offerings by TAFE, and this may alter the operational framework for TAFE external studies, but until such changes do take place TAFE external studies will continue to respond to a particular set of circumstances which has largely shaped its development since 1944, when the Australian States agreed to establish, and operate, external studies on a large scale. It is towards an examination of the effects of this shaping process that the remainder of this review will be directed.

ISSUES IN EXTERNAL STUDIES

The literature on external studies, in general, addresses itself to eight broad areas of involvement:

- curriculum
- technology
- design
- presentation
- production
- delivery
- tutoring
- administration.

As has been pointed out, the bulk of the literature dealing with external studies is both of fairly recent origin, and largely devoid of contributions by TAFE personnel. This does not mean, however, that the issues themselves have only recently been addressed or that those involved in TAFE external studies have been unaware of them. Indeed, much of what has appeared in the recent literature has been the subject of considerable debate within TAFE external studies since the late 1960s, when the first waves of change occurred in both the design and production of learning materials. It was at this time, also, that there emerged in TAFE, as elsewhere, the divergence of views between the curriculum theorists and the educational technologists.

CURRICULUM vs. TECHNOLOGY

In the late 1960s curriculum became a major issue with educationalists in general. There was concern about the degree to which curriculum development was being centralised, and the degree to which curricula were failing to meet the needs of differing school populations. School-based curriculum projects were initiated, and these were intended to cater for the needs of specific populations and to overcome the problems of dissemination and implementation which tended to bedevil curricula developed through centralised curriculum research and development projects.

In addition to the changes in the methods of curriculum development, the term 'curriculum' itself came to have a much wider meaning and began to encompass an increasing number of educational activities. Among these was the development of learning resource material, and this tended to create an overlap between the activities of the curriculum theorists and those of the educational technologists.

At this time, the educational technologists were still trying to recover from the disastrous experiences of the early 1960s when, as a result of over-enthusiasm, both educational and commercial, vast quantities of hardware were placed in schools. Much of this hardware, lacking suitable software to support it, and often quite unsuited to the needs of the existing educational system, ended up gathering dust in spare-rooms and cupboards. This initial period, referred to by Davies (1978) as educational technology 1 (the hardware approach) was about to be replaced by educational technology 2 (the software approach). Unfortunately, educational technology 2, with its systems approach, proved to be rather more suited to the perceptions of management than to the perceptions of teachers, who were still convinced that the teacher in the classroom was the hub of the universe and who, therefore, showed little enthusiasm for becoming managers of educational systems. Nevertheless, distance educators, sensing that there were changes in the wind, sought to incorporate in their own field, the elements of the new curriculum theories, while at the same time following the technologists down the road of large scale software production which the systems approach had initiated. Also at this time they began to extol the virtues of what they were doing, and much of the literature of the early 1970s is clearly oriented towards convincing the reader of the legitimacy, and the particular advantages, of distance education. In the case of TAFE, although there is little evidence of published material, in the broadest sense, there was a considerable quantity of written material generated in the form of submissions to various bodies (the Australian Committee on Technical and Further Education in particular) seeking to justify increased funding for distance education.

At about this time, also, the TAFE external studies institutions in some States began to modify their traditional approach to learning materials design. Since the 1940s, most external studies institutions had favoured an integrated model featuring a number of modules, each comprising an exposition on a specific topic and the details of the assignments to be submitted for evaluation. However, the changes that took place in the early 1970s were not uniform, and appear to have been the result, in part, of varying philosophical views: there were some who held to a traditional view; some who sought to emulate the Open University model; some who favoured the curriculum theorists and some who were oriented towards the educational technologists. It is not appropriate to argue, here, the various merits of particular philosophical views, but rather to point out the main differentiating features of each so as to give some indication of how these may have influenced the changes in the design, presentation, production and delivery of external studies material, and the tutoring of external students, particularly in TAFE.

THE TRADITIONALISTS

The traditionalists hold the view that the style of presentation developed prior to the 1970s has proved itself effective and there is little evidence to support the view that the changes introduced in recent years have warranted the cost of converting the existing course materials, particularly where the investment in this material is substantial. Furthermore, the traditionalists argue that the success of external tuition lies mainly in the tutoring and for this reason they concentrate on the operational aspects of external studies: improving assignment handling; monitoring the quality of marking; encouraging the provision of supplementary material by tutors.

THE OPEN UNIVERSITY THEORISTS

The Open University theorists point to the well documented success of the Open University and try to develop a more direct contact with the student through taped material, (both audio and video), regional centres, broadcasts, and use of the telephone.

THE CURRICULUM THEORISTS

The curriculum theorists seek to improve the design of the learning materials package; to make it more student interactive; increase its motivating capability by improving the presentation and enhancing the graphical quality of the written material which is sent to the student. Their aim is to compensate the student for the absence of a teacher.

THE EDUCATIONAL TECHNOLOGISTS

The educational technologists favour a systematic approach in which the student is given access to as many as possible of the available resources, both human and non-human. They favour reducing the necessity for all students within the educational system to have face-to-face contact with a teacher and do not believe that external students, as such, are especially disadvantaged. They believe that there are significant numbers of isolated students in classes and that these are in as much need of access to independent learning programs as are students who study off-campus.

NATIONAL PERSPECTIVES

While it would be very convenient simply to employ labelling techniques in an attempt to explain the observed variations in TAFE external studies throughout Australia, it needs to be recognised that there are factors in addition to differences in educational philosophy which need to be taken into account. There are, for instance the substantial differences in size of operation between, say, New South Wales and Tasmania. There are differences between States like South Australia, which operate their own printing cells, and New South Wales which relies on the Government Printer. Under the circumstances one could argue that any observed differences are the result of a set of circumstances peculiar to each State and therefore unlikely to have any significance outside its particular area of operation. However, since 1974 when the first meeting of Heads of TAFE External Studies Institutions was held in Melbourne, there has been a clear intention on the part of TAFE external studies to share resources. The Grimwade Report (1979) gave an indication of how this might be accomplished, and the meeting of Heads of TAFE External Studies Institutions, in 1983, set in motion a formal exchange of materials for the express purpose of evaluating the potential for large scale exchanges of learning programs. It seems reasonable to assume, however, that such exchanges of resources will not be confined purely to learning programs but will extend eventually to the results of research projects, particularly where such projects are aimed at establishing the cost-effectiveness of some of the differing procedures which are evident in the various States' approach to external studies. There is good reason to believe that funding levels for education will, in general, not increase substantially within this decade and it will be to those operations which clearly demonstrate their cost-effectiveness that any proportional increases in funding will go.

COST-EFFECTIVENESS

External studies has long been accused of being excessively costly. It can be demonstrated that this is not necessarily so, but it also needs to be demonstrated that the techniques and strategies employed in low cost programs are educationally sound. Alternatively, it needs to be demonstrated that the effectiveness of some high cost programs is substantially higher than that of any of the other available options. There is a need to demonstrate that cost-effectiveness studies in education are a viable proposition, despite the vaguely emotive protests of traditional educationalists who claim that comparative measurements of educational effectiveness are not possible, yet claim that face-to-face learning is 'better' than distance learning.

One of the most pressing needs is for each of the States to publish a comprehensive statement of its philosophical position, resources, operating procedures and existing research data.

Secondly, there is a need to determine the extent to which the views of the various theorists are valid in a TAFE context, because whether or not it is agreed that their ideas have been significant in shaping TAFE external studies as we know it today, they will certainly try to shape it in the future, and unless TAFE is content to be constantly fighting political pressure seeking to involve it in inappropriate strategies, it will need to base its arguments on objective criteria, not subjective opinion.

CONCLUSION

TAFE is a significant force in the field of external studies. It has a long history of successful operation and, in general, it is better equipped and staffed than external studies in the other sectors of education. It would be unfortunate if it lost the ability to shape the future development of external studies in Australia because of insularity and a lack of credibility in its statements about its own activities. It would be even more unfortunate if its undoubted ability to enhance the quality of education available to all Australians were to be hampered by its inability to attract the sort of funding needed to develop, fully, some of the highly cost-effective strategies that it has already pioneered. TAFE in the early 1970s was highly effective in pressing its case for special funding consideration. TAFE external studies in the 1980s should be equally determined to bring to public notice the benefits that it offers. However, it needs to resist the temptation to respond to the new technologies of the 1980s in a generalised way. There is no doubt, for instance, that computer-assisted instruction (CAI), computer-managed instruction (CMI) and computer-assisted learning (CAL), are educational realities, but without a clear perception of what TAFE is trying to achieve, and a clear understanding of the conditions under which it is operating, there is little prospect of such high technology being employed effectively. Similarly, non-specific claims that particular types of communication technology have a place in TAFE external studies are of limited value in the absence of some indication as to the type of operational systems which will be required, and the total costs involved. There is a need for TAFE personnel to stop discussing external studies issues in vague generalities and to get down to specific proposals, backed by well researched feasibility studies. There is a need for both formative and summative evaluation of learning programs, and a need to publish the results of those evaluations more widely than within the particular institutions from which they emanate.

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A REVIEW OF COMPETENCY-BASED OCCUPATIONAL EDUCATION

BY ROGER HARRIS AND ROBYN SCHUTTE

THE EMERGENCE OF THE COMPETENCY-BASED MODEL

Toward the end of the 1960s in the USA, the curtain went up on the educational stage to reveal a new movement—competency-based education (CBE).

This model of education evolved from a complex set of circumstances and trends. In the educational scene, several trends coalesced around this time, including increasing dissatisfaction with current education models, questioning of the relevance of post-secondary education, moves away from group instruction to individualisation and personalisation of learning, and a growing acceptance and application of approaches emanating from the behavioural psychology school. At the same time, a levelling off in the school population which provided educators with a breathing-space to focus on their programs and products, the public demand for greater accountability, and the introduction of new concepts of management (e.g. systems theory) and new techniques and resources from business and industry, created a climate of educational experimentation.

In Australia, the comparatively rapid expansion through the latter half of the 1960s and the 1970s of first the Advanced Education (CAE) and then the Technical and Further Education (TAFE) sectors of tertiary education has been followed by selective encouragement of particular components of the educational system. Factors leading to more stringent conditions have included declining student numbers in schools, an over-supply of teachers, public demands for more returns from education, political calls for educational accountability and a lesser priority status for particular educational components such as higher education in relation to other pressing social needs.

Such demographic, social and political factors impinging upon the economic context of education have shifted the emphasis away from educational concerns relating to quantity toward those relating more to quality—quality of staff, quality of instruction, quality of graduate. That this concern for quality has indeed become a priority of the national Tertiary Education Commission (TEC) is reflected in such moves as the provision of research funds for evaluative studies to raise the calibre of tertiary education in general (Tertiary Education Commission, 1978), the reports on TAFE teacher education and the subsequent granting of monies for initiatives in this area (Technical and Further Education Council [TAFEC], 1978 and 1979a), the National Inquiry into Teacher Education and its concomitant State inquiries whose overall focus was the quality of teacher education (Auchmuty, 1980), and the publication of documents like TAFEC's TAFE and Training for Skills which was prepared as 'a contribution to the growing debate about how Australia might best train the skilled people it will require in future years' (1979b). Moreover, the Australian Government's response to the report of The Committee of Inquiry into Education and Training (Williams, 1979), announced in November 1979, included several policy objectives relating directly to quality: the qualitative improvement of the TAFE sector, strengthening the teaching of basic skills, improving skills training arrangements, and facilitating the transition of youth from school to work.

The increasing demand for accountability, concern for quality in education and attention paid to skill training and youth employability has provided impetus and interest in Australia for a variety of applications of the competency-based (CBE) approach in post-school education (Harris, 1982b).

However, CBE has the properties of a chemical which, through its very catalytic nature, is able to produce reactions that either generate new processes and products or inhibit further experimentation. CBE, in short, has the propensity to polarise. On the one hand, many of its advocates have viewed the approach as the panacea for education's ills, seeing in it foolproof solutions to the many varied problems that have beset education for decades. On the other hand, many antagonists in a Thermidorian reaction have denounced the approach as overly product-oriented, narrowly mechanistic and too fragmenting of the teaching art. The battlelines on both sides of the CBE fence––frequently labelled as the camps of humanism and behaviourism––have tended to become so fixed in their positions, rigidly poised on the defensive at the extreme ends of the educational continuum, that their stance allows them to win battles only over straw men. Neither camp, however, succeeds in winning the war.

THE ANTECEDENTS OF CBE

The stalemate that so often results from such debate derives in large measure from confusion over definition. Discussion on the efficacy of such an educational strategy frequently generates more heat than light, as CBE has meant different things to different people.

It would seem that the most basic problem facing educators and evaluators involved in either implementing or evaluating competency-based programs is what exactly is meant by competence. Two papers which deal exclusively with defining the concept of competence are by Block (1978) and Butler (1978). Block, a well known advocate of the competency-based model, bases his paper on the theoretical works of earlier authors to develop a psychosocial concept of competence. He adopts the idea that human beings are not passive in dealings with their environment; and the capacity to deal effectively with the environment is measured by level of competence. With a sufficient level, not only are they able to deal with the environment but they are also able to manipulate it, leading to feelings of self-worth. He also specifies three environments which must be dealt with: socially ascribed, self-selected and self-ascribed environments. A repertoire of psychomotor, cognitive and affective competencies is required to cope with the demands of each of these environments.

Butler (1978) attempts to provide an operational definition of competence by describing in some detail the principles underlying, and processes involved in such a definition. He states that the educational function will determine whether the description of a competence is general, i.e. as in a highly generalisable process skill, or specific, i.e. skills which are content and context specific. Each level, from generic competencies to behavioural objectives, is explained in detail with special emphasis given to enabling competencies, which are steps that students must be able to demonstrate to proceed through their course.

The concept of learning through the acquisition of competencies is not course or level specific. Competency-based programs can be tailored to suit any year level, from junior primary to tertiary, and any course type from mathematics to medicine. The steps involved in implementation and the many factors which need to be taken into account are the same for all courses, regardless of level or type. Unfortunately, educators wishing to adopt a competency-based approach have had little assistance from the literature, especially in Australia. Indeed, in reviews of alternative instructional models, competency-based education has often been dealt with rather shortly as some other approach with one or two things added.

Those authors who have dealt with CBE merely as something with something else added, were not incorrect, but rather lacking in their efforts to define it. Competency-based education may most appropriately be described as a synthesis of two other well known alternative educational systems: Mastery Learning and Keller's Personalised System of Instruction.

The names Carroll, Bloom and Block will be familiar to anyone who has read (even minimally) the literature pertaining to mastery learning. Carroll (1963) began the mastery learning movement in 1963 with the release of his Model of School Learning, which questioned the belief that there were fast learners and slow learners, good and poor, and never the twain shall meet. Carroll's theory can be expressed neatly in the equation:

$$\text{degree of school learning} = f\left(\frac{\text{perseverance} + \text{opportunity to learn}}{\text{aptitude} + \text{quality of instruction} + \text{ability to understand instruction}}\right)$$

For Carroll, aptitude was not static but rather related to the time a student required to learn and the quality of instruction received. Under a traditional, time-based system, with all students receiving the same instruction (in terms of amount and quality of instruction and learning time), achievement measured at the end of the subject will be normally distributed; the correlation between aptitude at the beginning and achievement at the end will be relatively high, around +0.7 (Bloom, 1976). However, under a system where kind and quality of instruction and learning time are made appropriate to the characteristics and needs of each learner, up to 90% of students should be able to learn to a standard traditionally achieved by only 10% (Blank, 1980). What Carroll had hypothesised in his theory of learning was the necessity to separate the capacity to learn from the speed of learning to assess a student's ability—that low achievement could be attributed to inadequate time for learning rather than to an inherent inability to learn per se (Spady, 1982).

Hitch-hiking on Carroll's theory, Bloom over the past fifteen or so years has enlarged and refined the original hypotheses. His main contribution to the theory (Bloom, 1976) has been the identification of three independent variables which he believes must be attended to before the ideal learning situation can be achieved. These are:

- the extent to which a student possesses the prerequisite knowledge for a learning task (cognitive entry behaviours);
- the extent to which a student is, or can be, motivated to learn (affective entry behaviours);
- the extent to which instruction is appropriate to the learner (quality of instruction).

In his determination to support his premise that variability in educational outcomes is man-made through a system which takes no account of individual differences in learning (Bloom, 1976; Spady, 1982), Bloom has undertaken and supervised many studies on the effectiveness of the mastery approach. The studies used as evidence for the efficacy of mastery learning in his 1976 book were attempts to isolate the reasons why so many students are unable to cope with learning tasks presented to them at school when none, if looked at individually, should be beyond the reach of the majority of students.

From the results of these studies, Bloom estimated that up to 50% of variance in achievement on successive learning tasks can be accounted for by cognitive entry behaviours, up to 25% by affective entry behaviours and 20%-25% by quality of instruction. These figures are indeed impressive. Unfortunately, as Block (1974) pointed out, much of the research into mastery learning is 'not clean'. That is, it rarely meets with strict experimental standards; which is perhaps not surprising as most research has been carried out in real settings, in schools with real, everyday teachers. To do otherwise would raise ethical questions.

The contributions of Block himself to the theory have not been small. He has taken the theory and translated it into a working model, identifying five elements central to the success of the mastery model:

- *diagnosis*: A formulation of exactly what is meant by 'mastery';
- *prescription*: Devising a set of instructional objectives which all students will be expected to learn to a predetermined mastery standard;
- *orientation*: Breaking the instructional objectives into a sequential series of smaller learning units, each one consisting of approximately two weeks' work;

- *feedback*: The construction of brief diagnostictests for each unit to evaluate students' achievement and provide feedback on areas of weakness;

- *correction*: the use of alternative learning materials for each unit, keyed to the areas covered in each of the diagnostic tests (Block, 1974; Spady, 1982).

The second model which forms the basis of the competency-based approach is that of the Keller Plan or PSI (Personalised System of Instruction). The concept of mastery is central to the PSI model as is the belief that aptitude is not static but largely dependent upon time and the quality of instruction. However, PSI differs from Block's mastery learning model in a number of ways. In PSI, the units of instruction generally cover approximately one week's work, not two. Teaching is based on either written materials, video or audio-visual aids, with the teacher acting as an educational manager rather than a dispenser of information as in Block's model. PSI is 'individualised', whereas Block's model is group-based, so students proceed at their own pace through the units. Finally, PSI requires the attainment of unit mastery (to be demonstrated in either written, oral or performance tests) before the student is allowed to proceed to new work. But not achieving mastery does not constitute a failure, and the student will be aided by proctors (advanced students or teachers) in an effort to achieve the required mastery level (Block, 1974; Melton, 1981; Walberg et al., 1979).

From these two approaches to education has come a whole range of instructional models based to a larger or lesser degree on each of them. The extent to which competency-based education follows the one or the other tends to depend upon the area in which the approach is being adopted. As stated earlier, competency-based education can be implemented at any level and in any type of education. However, the area in which it is most prevalent is that of *occupational education*, where the PSI influence tends to dominate.

Within this field of education, the labels 'competency-based' and 'performance-based' areoften used interchangeably and a casual reader of the literature can become easily confused. If there is a difference in the minds of writers, it lies in the nature of the subject-matter. 'Performance-based education' is more often used to describe the approach used in those occupational areas where measures of competency are difficult to specify. A prime example of this is teacher education, where the label used is *PBTE*. 'Competency-based education' is more usually reserved for technical education and vocational training areas, where the label is CBVE.

THE COMPONENTS OF THE COMPETENCY-BASED APPROACH

Houston and Howsam (1972) provide a list of six components which they consider basic to the competency-based approach:

- the specification of learner objectives in behavioural terms;
- the specification of the means for determining whether performance meets the indicated criterion levels;
- the provision of one or more models of instruction through which learning activities take place;
- public sharing of objectives, criteria, means of assessment and alternative activities;
- assessment of the learning experience in terms of competency criteria;
- placement on the learner of accountability for meeting criteria.

Blank (1980) lists only four components but incorporates, within his four, the six listed by Houston and Howsam plus two others which are also important. The behavioural objectives must be 'verified as essential to entry-level employment' and 'each student is provided time, within reason, to fully master each task'. The specification of sufficient time within reason illustrates one of the major departures from the ideal PSI approach mentioned above. Peterson and Stakenas (1981) provide a list of six components which are similar in composition to those of Houston and Howsam but they have included 'a method for funding instructional services'. This component is not mentioned in this light by any other author covered in this review, but it surely is a basic requirement to successful ongoing implementation.

Spady (1982) includes all the components listed by both Blank and Houston and Howsam, but goes into greater detail on the process of providing instruction which is appropriate to each student and which all serious attempts at competency-based education should include. The provision of pre-tests for each unit to assess the level or student skills for a task can prevent the covering of material already known and orient the student to specific areas of weakness. Sequencing, where appropriate, will ensure that each student possesses the necessary cognitive pre-requisites to learn the task, and is also essential in courses where dangerous tools are used or where incomplete learning can endanger lives, e.g. nursing.

The final component Spady lists for a competency-based approach is the need for sound program evaluation. The context in which Spady sees program evaluation is as a verification of the objectives and learning tasks with the larger community (e.g. industry). However, there is also the need for internal verification by objective evaluation of the results obtained through a competency-based as compared with a traditional program.

It is upon this very rock, however, that attempts at verification and evaluation have foundered. The need to have a comparable control group poses problems for CBVE implementers as it does in any real-life intervention, and almost all programs have had to rely solely on the results achieved by experimental groups alone to attempt to demonstrate the superiority of the CBVE approach.

THE RESEARCH LITERATURE ON CBVE

The research literature on CBVE is indeed sparse. Most studies focus on the description of programs or on the development of materials. Very little evidence exists on the efficacy of the CBVE model or even of individualised learning materials. Pearson wrote of individualised instruction in 1981: 'the literature contains a lot more on how to and what ought to take place than solid evidence that these hopes are being realised', and specifically in reference to competency-based approaches, 'this review did not find any evaluation or research findings as to the effectiveness of such approaches' (our emphasis).

Certainly the 'success' of particular CBVE efforts has been almost exclusively based on what observers saw, or thought they saw, operating (Knaak, 1977). Research endeavours have been plagued by a lack of conclusive evidence often through insufficient definition, superficial program implementation, fundamental defects in research design, logistic problems or the methodological squealing of 'time-based' evaluation procedures being fitted to 'time-free' programs. Nevertheless, it is possible to highlight some of the more important studies on CBVE, while recognising that there remains a fine demarcation line between observer opinion and researcher evidence.

Authors such as Block (1974), Bloom (1976), Torshen (1977) and Ryan and Schmidt (1979) have reviewed the significant literature on mastery learning. Much of it is based on studies conducted in schools, and lies outside the scope of this review. Suffice it to say that the picture painted in these reviews is generally rosy, though we must be aware that they are based upon published research which tends not to report negative results. Research evidence on mastery learning tends to be favourable on such dimensions as the acquisition of cognitive skills, reduction of variability in achievement and retention, retention and transfer of learning, student attitudes, time spent in active learning, and minimising the effects of student entry characteristics on subsequent learning. One interesting though very general review is that by Walberg et al. (1979), who analysed studies from 1969 to 1979 in which positive results in learning were shown to have occurred as a result of some innovative change to the teaching-learning process. It is informative to reflect on how many of these changes, leading to positive results in learning, are features within competency-based programs.

A considerable proportion of the research studies on the competency-based approach to occupational education focuses on teacher education (e.g. Adams et al., 1981; Enos, 1976; Roth, 1977; Smith & Nagel, 1979; Thompson & Levis, 1980). Available evidence from number of publications, extensiveness of programs, variety of promotional agencies and effects of competency-based materials leads to the conclusion that the impact at this level has been considerable in America (Harris 1982a,c). Research on vocational teacher education points to improvement in the quality of training, positive changes to the delivery system and considerable impetus being given to competency-based instruction for all vocational students (Adams et al. 1981).

There have also been CBE programs in many other occupational programs in the USA. These include medicine, dentistry, nursing, law, pharmacy, urban planning, management and liberal arts (Grant et al., 1979; Kay & Massanari, 1977; Knaak, 1977).

Within vocational education, Blank (1980) has examined several studies comparing competency-based with traditional approaches. He concluded that the evidence shows CBVE, when well-designed and properly implemented, to be superior to traditional approaches, particularly in terms of enhanced learning, shortened training time, allowance for greater chance of success and more favourable student attitudes toward the learning process.

One of the most comprehensive reviews on CBVE has been provided by Knaak (1977). He cites studies which show that the possibility of early exit is a strong motivation for some students, that students after initial frustration show preference for the approach, that such a program is more effective than a traditional one for 'better students' (slow students are still slow, but less frustrated), and that it compares favourably with traditional ones with respect to student time consumption, attrition rate, cost to institutions, and job procurement.

Aside from these reviews, some individual studies are worth mentioning. One quasi-experimental study (Heath and Williams, 1982) involving 244 marketing students in 16 post-secondary classes across the USA found that students with the least (under 2 1/2 years) related work experience achieved more when learning by the traditional approach, whereas students with more (over 2 1/2 years) related work experience achieved more when learning by the competency-based approach. This interesting result may have arisen either because prior experience of some competencies had allowed some students to cover more material or the same material in greater depth, or because prior experience had allowed learning activities, which are based on validated competencies, to be perceived as more relevant to the 'real world of work'. If these factors do contribute to higher achievements, the CBVE approach may be a more relevant system for learning for those students who have already had some work experience.

Another study (Kentucky Department of Education, 1978) aimed to interpret the findings of two research projects on CBVE in a manner meaningful to teachers and the public. The first project was a validation of a 38-item instrument used to measure students' attitudes to CBVE, a development which was hailed as 'a major contribution to the research effort on CBVE', as this scale could be used in future studies with the confidence that it was both valid and reliable. The results showed not only that students in Kentucky had a positive attitude to CBVE, but that such programs were regarded positively by all students regardless of their innate abilities or previous success in school. This conclusion appears to counter the argument that CBVE works only for faster, more intelligent students.

The second project set out to measure the effectiveness of CBVE programs in Kentucky. Involved were three occupational areas—bank tellers, secretaries and tractor mechanics—with two experimental and two control classes in each area. Results indicated that students in the CBVE classes, by comparison with those in the traditional classes, learned more on measures of cognitive learning, were able more competently to perform entry-level job skills, and learnt subject-matter faster. However, the data did not support a fourth hypothesis that CBVE motivates students to higher levels of performance as measured by increased effort, more positive attitude and higher grades.

This study is one of the very few presenting research data on the effectiveness of the CBVE model. Its design was quite rigorous and complex. The report, in fact, concluded that the design was probably too exacting and recommended that in educational settings where both rigorous experimental control and exacting measurement were unlikely to be available, 'future researchers return to the simple, classic pre-post design'.

Sewell's study (1974) supports other research evidence that students prefer self-paced, individualised programs over traditional programs. Involved in this study were 152 students in 13 post-secondary vocational classes in Wisconsin. She found no significant differences in the attitudes of males and females towards individualised instruction, though females did have more positive attitudes towards the traditional approach than males. Another important finding was that on the dimension of effectiveness, students considered that individualised instruction resulted in 'a better education for most students' (80% agreed with such a statement), and in 'a better understanding of the subject' (74%) than did traditional instruction (28% and 36% respectively).

SOME AUSTRALIAN STUDIES

Within Australia, there have been only a few published studies with relevance to the competency-based approach. At a general level, recent analytical reports have been compiled on individualised instruction in vocational education (Macdonald, 1979 and 1980a), current practices in modular training and self-paced mastery learning (Pyke, 1982), modular apprenticeship courses and the need for more support for TAFE teachers and learners (Robson, 1981), on individualised instruction and mastery learning (Locke, 1982c), on the compatibility of Knowles' concept of andragogy and self-paced mastery learning (Locke, 1982b), and on individualised instruction and self-paced learning (Pearson, 1981). The reports by Macdonald and Pearson, in particular, are excellent reviews, though competency-based programs as such are mentioned only very briefly.

Other relevant publications that have appeared recently have been concerned with competency-based education as an effective model for the training of secondary teachers (Thompson & Levis, 1980) and TAFE teachers (Hobart & Harris, 1980 and 1982), as a means of training industrial trainers at a distance (Harris et al., 1985), as a potential alternative model in post-school education (Harris, 1982b), as an approach to mathematics at primary school level (Douglas & Skinner, 1982), and as a guide to the development of instruments for evaluating student teaching competence (Garnett & Taggart, 1983; Henry et al., 1981).

All of these reviews and analyses assist in the understanding of the CBE model and its implementation in Australia. However, the brevity of this review allows no further analysis of them, and instead dictates a specific focus now on those few research studies which bear an immediate relation to the CBVE model within the TAFE sector.

Within TAFE itself, the most comprehensive studies that have been carried out on CBVE programs have been in panelbeating (Harris et al., 1985; Macdonald, 1980b; Wickenton, 1981), panelbeating and spraypainting (Camaren, 1983) and woolclassing (Bell, 1982).

The study at Richmond Technical College (Macdonald, 1980b) set out to evaluate the effectiveness of self-pacing as a teaching strategy in the panelbeating trade. It concluded that it was effective, particularly in terms of its allowance for variation in learning rates, accommodation of literacy difficulties through use of audio-visual media, generation of high levels of student motivation and satisfaction with the course, development of high level of job satisfaction among staff, improved staff-student relationships, reduction of discipline problems, and its allowance of free movement of students between practice and theory areas. There were problems, however, that required attention. These included the noise factor, specification and enforcement of standards, design of learning materials, teacher's role, and the need for staff training in the operation of a self-paced program.

A small follow-up study (Wickenton, 1981) demonstrated the continued high level of staff and student preference for such a program. Apart from reported difficulties, however, still existing with the concept of mastery and with reluctant readers, the most significant problems related to the teacher's role and the clear need for further staff development.

A more extensive study (Camaren, 1983) in Western Australia confirmed the Richmond findings on self-paced programs. Since this evaluation involved Stage 3 panelbeating and spray painting apprentices who had experienced traditional programs in Stages 1 and 2, their comparative judgments that the self-paced mode was superior and preferable to the traditional mode are worth highlighting. In particular, there was strong support that self-paced instruction contributed to highly desirable affective development in students in addition to achieving cognitive and psychomotor outcomes. Another conclusion was that the program was unlikely to require more or fewer staff than a traditional one. The benefits of self-pacing were not found to lie in the economics of staffing but in terms of the quality and quantity of instruction and in the options for servicing clients and industry more efficiently. The report claimed that self-paced learning succeeded in improving the effectiveness and efficiency of current instructional practices. However, again the need for staff development support before and during implementation was underlined.

Two aspects of these reports should be highlighted here. Firstly, they were studies on attitudes, that is, perceived effectiveness on the part of those involved. Secondly, each was based on data gathered from one college.

A third study using panelbeating apprentices was carried out in South Australia in 1983 (Harris et al., 1983; Seebeck, 1984). A competency-based program was designed, implemented and evaluated using data from administrators, staff, students and employers. An attempt was made to use a group in a traditional program in Sydney for comparison of not only attitudes but also data on knowledge and practical tests.

While the test data have not yet been finally analysed, preliminary findings support other studies particularly in terms of positive staff and student attitudes. Key features of this study included its intensive staff development program both prior to and during the implementation of CBVE, its development of clearly specified criteria for assessing mastery, the construction and use of competency profile charts, and its assessment of the change process impacting on the TAFE college as a result of the introduction of the CBVE program. This time, administrator concern (mainly centred on cost) and program management surfaced as the main areas requiring attention.

The monitoring of the use of self-paced materials was the prime focus of Bell's study (1982). These materials were trialled in Level 1 of the Woolclassing Certificate at six centres throughout Victoria. The evaluation procedure concentrated on quick feedback through formative evaluation to curriculum developers (the design function), and on portrayal of what it was like to be involved in the program (the implementation function). Data were gathered by means of informal interviews, student questionnaires, teacher record sheets and observation. The study found that there were two main models of adoption—use of these materials as self-paced materials, and use of them simply as learning resources. No judgments were made by the author, the major conclusion being that 'the self-paced materials have been adopted in ways that seem appropriate to the teachers and students involved'. The finding on student opinion of the materials and program supports that reported in Knaak (1977), namely, an early phase of frustration and criticism, followed by one of support and confidence. By the end of Term 2, students, irrespective of age, sex, previous education, current employment or planned use of the course, had a positive attitude to the program, particularly to the principle of self-paced learning. The report recommended the dissemination of the self-paced materials to all woolclassing teachers in Victoria, and advocated further research, using quantified data rather than 'a highly interpretive process', on models of implementation, on anticipated and unanticipated outcomes of learning by students, and on the interrelationships between these two sets of data to provide empirical interpretation of the effects of different styles of adoption.

One other study (Drummond, 1981) highlighted the capacity of the CBVE model to accommodate the needs of slow learners. While involving only one group of 15 Commercial Certificate students at one TAFE college, her research found that the teacher was able to spend more time with slow learning students, and that the quality of instruction presented in this program was at least equal to that provided by the traditional components of the Certificate. She concluded that, on balance, the advantages of being able to meet individual needs at all levels of ability outweighed the disadvantage of extra preparation time needed to instigate the program.

Other Australian studies in vocational education have been concerned with such areas as modular training (Lambert, 1978; Locke, 1982a; O'Donnell, 1978; Wells, 1980), programmed learning (Cusick, 1983; Seymour, 1979; Todd & Cawthron, 1977), and computer managed or assisted instruction (Curwood et al., 1982). These studies, while having an indirect bearing on CBVE, are considered to lie outside the scope of this review.

PERCEIVED ADVANTAGES AND DISADVANTAGES

Following the discussion on the antecedents and definition of CBE, and its research literature, it is perhaps most appropriate to summarise this review by direct reference to the perceived advantages and disadvantages of this educational model. One of the most succinct summaries of the advantages of CBVE has been developed by Blank (1980), who from his stance that CBVE is better than traditional, instructor-centred approaches, compiled the following reasons implied from research as well as from what he labels 'common-sense'.

- Gives each student enough time to master each competency before moving to the next.
- Shortens training time for some students.
- Meet the needs of special learners more effectively.
- Reduces failures, and early successes can reduce absenteeism, tardiness, the attrition rate and behaviour problems.
- Enables educational institutions to offer open-entry, open-exit, self-paced programs.
- Allows proficiency to be held constant—and at a high level—and allows individual training time to vary.
- Is preferred by students, who, through the experience, enjoy the challenge and freedom to take responsibility for their own learning.
- Promotes greater accountability of students, teachers and the training program.
- Results in more effective articulation among educational institutions through clearly stated competency statements and program parameters.
- Keeps students task-oriented and active, just like the world of work.

On the other hand, many writers (Gilli & Wilcox, 1980; Grant et al., 1979; Ingram, 1980; Moss, 1981, Norton et al., 1978), even protagonists of CBVE, have been quick to issue warnings and cautions. But then, as Hall and Jones (1976) have said, 'the innovation that sooner or later arouses no resistance must be extremely trivial'. These warnings have sometimes been philosophical in nature, such as the uncertainty whether the sum of the parts does in fact equal the whole, or the outright rejection of what could be, taken to its extreme, a mechanistic, dehumanising and restrictive model of training from the behaviourist school. Other concerns have centred on the lack of adequate research data on the effectiveness of the approach, on the costs of setting it up and maintaining it, on what are the essential competencies in an occupation. Most often, however, warnings focus on the difficulties of instructional management, on the shortage of high quality materials, or on the resistance of teachers who may perceive considerable hard work, potential role conflicts and threatened jobs ahead. Whatever the truth in such warnings—Blank (1982) terms them 'popular myths'—it is nevertheless the case that the quality of any instructional system depends on the performance and commitment of the teacher, and that while CBVE is seen to have many advantages, it must not be seen as the panacea of all educational ills—'the ultimate aspirin for educational headaches' (Piper & Houston, 1980).

CONCLUSION

Competency-based occupational education is a movement which has gained considerable momentum in North America. There are also indications of its taking root in Britain through the Government's reform of training arrangements as detailed in the White Paper relating to the New Training Initiative (City and Guilds, 1982; London Central Office of Information, 1983) and to a lesser extent in technical teacher education (Tuxworth, 1977), and in Australia through individual programs in TAFE and in TAFE teacher education.

To date, most of the literature on CBVE is North American and comprises mainly program descriptions and theoretical analyses. Very little research data specifically on CBVE are as yet available, and many fields lie fallow awaiting the research plough.

This paucity of research is confirmed by a recent survey (Miller, 1982) of past and present editorial board members of the Journal of Industrial Teacher Education, a reputable American journal. Asked to rank 50 topics that should be investigated, the respondents gave 'evaluation studies concerned with the effectiveness of vocational education programs (e.g. mainstreaming, CBVE)' as sixth most important and 'hard data showing the superiority of the competency-based approach to vocational education (or lack thereof)' as fifteenth. While these were the only two mentioning CBVE by name, the fact that 'criteria for evaluating vocational programs' (ranked 4.5) and 'alternative concepts for curriculum development in vocational education' (ranked 8.5) were also very high on the list is indicative of the high priority currently given to the search for more effective models of vocational preparation.

At the descriptive level, there is a clear need for more analyses of Australian CBVE programs: their development, features and impact. Until such analyses are published and such information disseminated, educators cannot be blamed for finding it more comfortable to remain ostriches in the sands of traditional, lockstep instruction than to risk sticking their necks out to experiment in the quicksands of program innovation and evaluation.

At the evaluative level, studies are required on the efficacy of the model itself as a system of vocational training in Australia. Such studies may focus on such prime issues as cost-effectiveness or the effects on motivation of both students and teachers. It would be informative, too, if we had data on what student characteristics--for example, nature and length of work experience, learning preferences, cognitive styles and intelligence—are associated with the most effective learning within CBVE programs. Again, research is needed into what types or levels of occupational programs might most effectively be converted into CBVE, and what specific types of learning resources are the most promising to utilise within such a program. The field is wide open, and presents an exciting challenge to the researcher. Particularly is this the case when it is remembered that the research already undertaken tends to be based almost exclusively upon attitudinal data. This type of evidence urgently needs to be supplemented with observational, case study and test data if we are to extend the state of the CBVE art.

Occupational education has a dual thrust, on the one hand to develop competent workers in terms of skills and knowledge, and on the other to promote desirable attitudes towards learning and the world of work. CBVE represents one response to both of these desired outcomes. Available evidence, while predominantly anecdotal on the first point and embryonic on the second, does seem to underline the potential of CBVE as an effective system of developing competent workers, and to suggest quite strongly that considerable improvements can be made in promoting desirable attitudes in students.

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EDUCATIONAL MEDIA IN TAFE

BY BRIAN KENWORTHY

INTRODUCTION

For the purposes of this review the term 'educational media' as defined in the Draft glossary of TAFE terms (1983) has been adopted. This defines educational media as the:

> equipment and materials used for communication in instruction. (p. 13)

Other terms defined in this glossary which are relevant to this review are:

- **audiovisual aids:** non-print teaching materials and the equipment required for their display. (p. 9)
- **educational resources:** the equipment, facilities, materials and personnel available for education. (p. 13)

Related terms that will be used throughout this review are

- **educational technology**
- **learning resources**
- **instructional materials.**

The Australian Society of Educational Technology has defined **educational technology** as:

> the design, application, evaluation and development of system, methods and materials to improve the process of human learning. (1975, p. 2)

This view of educational technology recognises the importance of integrating theory and practice and the development of:

- instructional systems (including courses and units of study);

- instructional methods (including staff training and development programs);

- instructional media and materials (including the new electronic media and the whole range of print and non-print materials).

Brown and Kenworthy (1982) have defined **learning resources** as:

> a flexible phrase covering all types of software used in the education process, together with associated hardware, the expertise of resource personnel and the strategies developed to stimulate learning. It includes the whole range of materials normally associated with libraries (books, periodicals, microforms, audio-visual media), together with learning packages/programmes designed to achieve specific learning objectives, computer assisted and computer managed instruction, and any future developments in educational communications and technology. (p. 5)

Instructional materials: is used to describe all types of instructional aids or audio-visual resources. It includes both print and non-print materials, and materials known as 'software'. It does not include the hardware necessary to process the software, e.g. projectors, video cassette recorders etc.

While educational media and its application in TAFE have received a great deal of attention from writers and researchers overseas, especially in the U.S.A. and the U.K. there appears to be very little evidence that they have received similar attention in Australia. Initiatives in Technical and Further Education lists eight related references, four of which are basically catalogues of audio-visual materials from a variety of sources; two are overseas studies; one deals with media selection and two look at existing systems and the potential use of educational media in TAFE in only three States.

Because of this lack of relevant published research on the topic, this review concentrates on existing educational media service and production within all TAFE Authorities in Australia and relies heavily on the information and documents that have been provided by TAFE Authorities.

EXISTING EDUCATIONAL MEDIA SERVICES AND STRUCTURES

Within TAFE Authorities in Australia there appear to be two basic structures for the design, development and production of educational media. One is essentially a college-based operation, while the other is designed to provide learning resources on a centralised or departmental basis.

The college-based structure which is more commonly found in TAFE Authorities generally utilises existing expertise and other resources that are available within the institution. In many cases, teachers identify their own learning resource needs and generally provide some or most of the resources to produce them.

Only in relatively few colleges, with the exception of Victoria and the ACT, are trained educational technologists available to assist teachers either in this design stage or in their ultimate production. The quality of the product, therefore, varies considerably according to the facilities available within the college and the time which the teacher and/or educational technologist can devote to design and production. Very little formal dissemination takes place, as generally the materials are only used by the teacher developing them and possibly by immediate colleagues.

The advantages of a college-based structure are that teachers can develop learning materials which closely match their own needs and the perceived needs of their students. Often, teachers are likely to integrate such materials into the instructional process and make effective use of them because of their involvement in their development. In addition, learning resources needed to illustrate a concept or to describe a process and which may not justify full-scale professional development can often be quickly and inexpensively produced 'in-house'.

The disadvantages of this system are that the range of locally produced materials is reliant upon the time available to teachers and their quality is dependent upon the teachers' skill in design, development and production. In addition, although these materials may have a potentially wider application, they often remain unknown outside of the college responsible for their production. This can lead to unnecessary duplication of effort by other institutions developing and producing similar resources. To overcome this problem the Victorian Association of Educational Technologists in TAFE has compiled a Learning materials in production listing which is periodically updated and distributed to TAFE colleges within Victoria.

The centralised or departmental structure tends to better utilise the varied expertise of teachers, educational technologists and other production personnel, as well as the best available facilities existing within the TAFE Authority at one or more institutions. Ideally, the needs of all curriculum groups within the State are identified and resources are made available to produce materials for statewide dissemination.

The advantages of this structure are that a wider range of materials can be produced and made available as the result of decisions made by experts in the respective curriculum areas and by specialist media design and production personnel. Duplication of effort by individual colleges can be minimised and by utilising mass production methods, unit costs can be reduced.

The disadvantages of a centralised system are that difficulties may occur in meeting the resource needs of all teachers, some of whom may feel that they have less control over the design and development of the end product. In addition, teachers often express frustration over the production time involved, ie. the time that elapses between the request for specific curriculum materials to be developed and the distribution of the completed product.

The following is a brief description of educational media services and production in each TAFE Authority.

Australian Capital Territory

The three TAFE Colleges of Woden, Bruce and Canberra have educational media production units or departments producing a range of audio-visual materials.

The Educational Media Centre at Woden TAFE College has a staff of two, both of whom have teaching and media production experience and expertise.

The aims of this centre are to:

- provide expertise in instructional design;
- design and produce effective educational resources to support the college curricula;
- advise and instruct staff on the effective use of media production techniques;

- provide an efficient and accessible media service for the College.

Within the Educational Development Unit at Bruce TAFE College there is a media department with four professional staff who have various qualifications and experience in the design and production of educational media and one technical assistant. This department develops educational media in conjunction with proposals for new and revised programs of study but is not able to produce large quantities of instructional materials.

The School of Educational Services at Canberra College of TAFE which is involved in curriculum and staff development also has two staff involved in educational media design and production.

New South Wales

A. Development of educational media

Educational media resources are developed and designed by

- **central project teams** consisting of:
  - —a teacher (nominated by the School) as subject adviser;
  - --an education officer as project consultant and instructional designer;
  - --professional support staff for final design and production;
- **college based or regional teams** where the last two roles above are carried out by a Regional Media Co-ordinator, or where all three roles may be carried out by a teacher with suitable expertise;
- **individual teachers** using local college facilities and equipment rather than regional instructional design centre facilities.

Of the three approaches outlined above, individual teachers using college equipment account for the majority of materials produced within the Department. However, ready-made commercial products account for a large percentage of the instructional materials used by teachers.

The aim of the team approach outlined above is to ensure that in major projects the educational specifications are confirmed before final design and production begins.

Film and video titles are loaned or distributed centrally following negotiation for the right to make copies. Other audio-visual and print materials are accessed directly by college libraries or teaching sections.

For centrally developed materials, production and distribution are arranged to the teaching school's specifications. Copies are sent to designated sections and college libraries. Masters are held centrally, although supplementary copies or further distributions are only arranged by special request from the school concerned.

Locally developed material remains 'one off' except where regional distribution has been anticipated. Here central agencies may assist with multiple copying, however, all masters are retained by the regional centres.

B. Production centres

Centralised centres

Those centres located centrally tend to specialise in certain production areas, with facilities capable of producing high quality masters for statewide distribution. Their clients include Head Office curriculum support groups and the teaching schools as well as individual teachers in some cases. To a large extent these centres are interrelated in their development and production processes.

The centres involved mainly with educational media are the Educational Resources Branch and the Controller's Unit.

The Educational Resources Branch consists of four sections:

- the **Curriculum Resource Development Section**, which is involved in the development, design and production of instructional materials for statewide distribution;
- **Technical Services**, which produces and duplicates audio and video tapes;

- **Educational Resources Co-ordination Unit**, which provides advice, facilities and training to assist teachers select, develop and produce instructional materials through central and local centres;

- **External Course Materials Development Section**, responsible for the development and production of instructional materials for distance teaching through the College of External Studies.

The Controller's Unit consists of two sections:

- a **Design Office**, producing high quality technical illustrations and drafting work for use by teachers and students;

- a **Photographic and Film Services Unit**, producing a full range of photographic materials requested by Teachers, Schools, Head Office Services and support units.

Regional centres

There are six centres located regionally which are called Regional Instructional Design Centres and which house a broader range of more basic media equipment. They exist to support curriculum implementation at the regional or college level and have as clients individual teachers, teachers as regional teaching school representatives, as well as Head Office curriculum support groups that have regional representation.

These centres, while they exist to serve regional needs, remain professionally responsible to the central Educational Resources Branch.

College centres

Development and production of instructional materials occur in all colleges wherever facilities or equipment are directly available to teachers.

Some quite highly equipped production centres exist in colleges to directly involve students as part of the teaching program of a particular school. For example, Biological Sciences (Podiatry), Applied Electricity (Film and Television Techniques), Business and Administrative Studies (Advertising and Public Relations), and General Studies (Library Technicians).

Northern Territory

There is no central educational media production centre; however, a building program is underway to provide facilities to develop educational media and it is expected that this will be completed in 1985.

A range of learning resources is prepared by a number of schools within the Darwin Community College and the Learning Resources Centre at the college as listed below:

- School of Australian Linguistics—production of vernacular literature for bilingual education and native language literacy programs and the preparation of course materials for on-site and external courses in these areas.

- School of Business and Administration--production of instructional materials including syllabus documents, student lesson notes, assignments, transparencies, filmstrips, audio and video recordings and computer-based resources.

- Home Economics Department—production of instructional materials as required; including syllabus documents, teacher guides, student lesson notes, transparencies, sectioned aids and models.

- Learning Resource Centre, Darwin Community College—production of teaching and learning aids suitable for courses conducted at the Darwin Community College—particularly where commercially produced aids are either not suitable or not available.

- School of Trades—production of instructional material as required—all materials except audio, video and computer-based resources.

Queensland

The State Resource Materials Centre (RMC) has been set up at the Yeronga College of TAFE to facilitate the provision of learning resources in the RMCs of TAFE Colleges throughout Queensland. This includes resources not only to be centrally acquired and catalogued by a central Bibliographic Unit but to be developed, where necessary, by a central Teaching Production/Reproduction Audio-visual Unit. It is the integration of instructional and curriculum design, resource production, library and media services in a single administrative entity which enables the

State RMC to service the educational resource needs of TAFE colleges. The State RMC has an advisory and management role with regard to the development of the resource sharing network of college libraries throughout the State. The sharing of resources is facilitated by a microfiche union catalogue of Queensland TAFE College RMCs.

The Production Unit offers three kinds of services to colleges:

- dubbing
- use of editing and audio recording equipment
- central production.

The emphasis in resource production has been on videotapes, slide tape programs, photographic stills and audiotapes. In addition, teacher guides and student lesson notes, charts and transparencies, are produced at the State RMC.

Requests for program development originate from a variety of sources including Curriculum Branch, other Head Office Sections, colleges and other authorities. Preliminary checking of existing resources is undertaken before original productions are developed. The college librarians play an active part in suggesting suitable programs to produce since they are aware of gaps in available resources.

The State RMC in 1983 held 55 slide/tape masters, all except six being original State RMC productions; and more than 1000 video masters of which 46 are original State RMC productions. Some 70 per cent of the remaining programs have been made available by companies for free distribution to colleges. Because of the dearth of commercially available material, TAFE has traditionally made extensive use of films and videos produced by various commercial and industrial organisations. The remaining 30 per cent of masters have been purchased from commercial production houses.

Little formal evaluation has been undertaken of the effectiveness of TAFE-produced audio-visual materials in the teaching/learning process. In the absence of media liaison officers, college librarians play an important role in providing feedback on the effectiveness of these materials.

All original productions are distributed to appropriate Queensland TAFE colleges free of charge. However, in view of increasing demand by other Queensland institutions for Queensland TAFE programs, the procedures for marketing programs at cost price are being investigated.

Apart from the State RMC there is very little college-level production of educational media.

South Australia

The Centre for Resource Development, Adelaide College of TAFE offers a centralised service to all TAFE colleges throughout the State.

It aims:

- to provide and operate materials design and production facilities in the following media: print, photographic (prints and slides), audio, video (including film), and miscellaneous visual items (for example, overhead transparencies and graphics);
- to conduct or contribute to staff development and inservice activities related to educational use of the above media;
- to offer courses in media production (confined at present to non-print media);
- to develop and maintain liaison with other TAFE colleges and with the Curriculum Development Branch and the Educational Resources Branch with regard to media requirements and applications;
- to provide technical consultancy and advisory service to TAFE Buildings Branch and other offices concerned with specifying and purchasing media production and replay equipment.

The two major components of this Centre are Educational Publications and Educational Multi-Media. Educational Publications prepares and produces printed learning materials which form the basis of almost all external studies courses for the department.

Educational Multi-Media researches, prepares and produces instructional materials in video, audio and slide formats for use in TAFE curricula throughout the State. It also provides some inservice and public courses in media and broadcasting.

The aims of Educational Multi-Media are to:

- provide a service of learning resource development in response to specific educational needs;

- augment or complement such development work for those colleges which have their own media services;

- provide for colleges which have no in-house development resources, given that most colleges are unable to be self-sufficient in this regard;

- provide co-ordinated resource development where two or more colleges have similar or congruent needs. (Examples of resources developed in this way include, Hairdressing, Plumbing, Automotive, Matriculation Studies, EPUY).

Services offered by Educational Multi-Media include:

- the planning, educational design and development of course resource packages;

- the preparation, production and servicing of such projects;

- the promotion of effective utilisation methodology in terms of user application;

- the distribution of resource materials throughout the TAFE college network, and to Education Department schools via the Educational Technology Centre;

- the development and conduct of appropriate courses in media production for departmental staff, the community, and for the professional radio and television industries.

The Educational Resources Branch in the department monitors and reviews production at Educational Multi-Media by its close involvement in the Production Commitments Panel. To allocate priorities for production to proceed the panel uses the following criteria.

It must be shown that:

- a proven need exists, and that this need is consistent with departmental priorities;

- any necessary subject expertise can be made available for completion of the project;

- production facilities have the capacity to include the project in a future schedule;

- no resources already exist, or may be available from other sources (for example, commercially) which could reasonably meet the educational need.

Under the terms of the South Australian Film Corporation Act all video or film materials produced by TAFE have their copyright vested in the South Australian Film Corporation. Because of this situation, other TAFE Authorities have experienced difficulties in acquiring these resources. This has resulted in under-utilisation of a wide range of excellent video programs.

In addition to the central production unit at the Centre for Resource Development, Adelaide College, several larger colleges have established, or are in the process of setting up, in-house resource production units. These range in complexity from simple materials preparation areas where teachers may produce slides and overhead transparencies to more sophisticated facilities for audio and video program production. However, these college production units in no way duplicate the activities of the Centre for Resource Development. Whereas the latter is concerned with producing materials for use in a wide range of courses across the Department, the in-house units are producing learning/teaching materials primarily to meet specific needs within the individual college. Because of this localised approach it can be clearly identified as a different level of production.

In-house production units have had an impact on the teaching program in a number of TAFE colleges, including Marleston, Panorama, Adelaide, Croydon Park, Regency Park, Elizabeth and Gilles Plains.

Tasmania

The Tasmania Media Centre is operated by the Education Department and although it mainly provides instructional materials for primary and secondary schools it produces materials on request for the Division of TAFE.

Many of the learning materials developed are multi-media in format and may include slides, audiotapes, printed materials, photographs, wall charts and more recently, microcomputer discs. The Centre has a production capacity and specialist knowledge for all these formats since its officers are aware of the potential and appropriateness of each.

Decisions as to the most effective format and the most effective organisation of content are made in the light of the educational brief supplied by curriculum consultants and subject supervisors. However, decisions are joint decisions endorsed by the appropriate consultants. The process of development and production is time consuming and intricate. When materials are first written and edited it is usually necessary to produce limited copies of a prototype kit or booklet. This prototype is then trialled by teachers. Modifications and revisions often follow.

Educational validity and cost effectiveness are balanced through dialogue among curriculum consultants, specialist teachers and Media Centre officers.

Materials are produced in consultation with those who generate materials, are to use materials, and have experience both as educationalists and media officers.

National marketing of the Centre's products is widespread and is co-ordinated by the Centre's National Marketing Committee.

In addition to the Tasmania Media Centre, limited production of instructional materials is carried out at the centres described below.

Hobart Technical College, Resource Centre

This resource centre provides a service for staff and students in support of the College's teaching and learning programs by working with teachers in the planning and production of learning materials relevant to the curriculum and by making these and other resources available in an integrated collection. The College, through the School of External Studies, also produces distance teaching/learning materials for external students.

Burnie Technical College Library

The major aims of this centre are to:

- facilitate resource based teaching;
- encourage teachers to produce their own resources applicable to the curriculum;
- share these resources with other teachers and colleges.

Devonport Technical College—Teacher Aide Centre

This centre produces materials required by teachers of the courses conducted by the college.

Tasmanian College of Hospitality, L.R.C.

This centre provides materials support for the teaching and learning programs of the College.

Launceston Technical College

Unfortunately no information was provided from this college, although it is believed that significant development of learning materials does occur.

One of the features of the organisation and utilisation of instructional materials in Tasmanian TAFE colleges has been the success of a number of Learning Resource Management Projects. These projects, commencing with the Automotive Trades Department of Launceston Technical College in 1979, have now been implemented in a number of colleges and curriculum areas.

The broad objectives of these college-based projects have been:

- to establish a plan to make existing resources more accessible and suitable for classroom use;
- to identify those resources used by other colleges (in Tasmania and other States) and to arrange for duplicate copies to be made available;
- to support the production of teacher-made learning materials;
- to improve routines for library support of the teaching department concerned;
- to prepare lists of resources to match teaching units (for example books, films, tapes, kits, etc).

Victoria

There is no centralised educational media production facility as such for TAFE in Victoria, but some of the larger colleges have been assigned a statewide responsibility in particular media formats. For example, the Moorabbin College of TAFE provides a videotape dubbing service not only to TAFE colleges in Victoria but to other educational institutions throughout Australia. The dubbing service obtains the copyright release for films suitable to support TAFE programs, copies these films onto a master videotape and provides copies of these films on videotape for distribution.

The videotape catalogue of more than 500 titles is produced using the Moorabbin College computer which enables continual catalogue updating and an updated catalogue on microfiche is distributed to dubbing service users throughout Australia free of charge, three times a year.

The Victorian TAFE Board funds the dubbing service operation and any user of the service other than a Victorian TAFE college is required to pay a service fee of 50 cents per program minute for copying. In addition, dubbing service users must bear a portion of any copying fee payable to a copyright owner, where this is required.

The Audio-visual Department of Moorabbin College of TAFE also produces a wide range of television programs to support TAFE courses, for example, during 1983, 30 programs of a high standard were produced in areas as diverse as Hairdressing and Panelbeating.

Programs are usually requested by faculty co-ordinators. However, requests from individual teachers are also considered and assessed for their educational value and suitability for production using the medium of television.

These programs, when completed, are incorporated in the TAFE videotape dubbing service, so that they are available to other educational institutions throughout Australia.

Richmond TAFE College offers a similar service to Moorabbin for materials produced for Motor Vehicle Studies. The majority of these materials are produced at Richmond and include video, slide/tape programs and printed materials.

Preston TAFE College also offers a statewide service for the duplication of slides or slide sets for subsequent distribution on a demand basis.

In addition to these three colleges, there are major production units at a number of other TAFE institutions, including Box Hill, Collingwood, RMIT, Swinburne and Gordon.

One of the features of educational media development and utilisation in TAFE in Victoria is the number of trained and qualified educational technologists working as instructional designers/educational media designers and producers. For example, at both Richmond and Box Hill there are four professional staff involved full time in such activities. Further demonstrating the active role of educational technologists in TAFE in Victoria is the existence of the Victorian Association of Educational Technologists in TAFE (VAETT) which aims:

- to promote and provide informed representation to any bodies requiring input about Educational Technology in the TAFE area;
- to provide [a forum] for exchange of information, ideas and research regarding learning programs in the TAFE system;
- to provide opportunity for regular communication and discussion of common problems concerning Educational Technology within TAFE;
- to foster co-operation between individual TAFE colleges in the area of Educational Technology;
- to foster co-operation with Education Technologists generally and with other interested persons or organizations. (VAETT, undated, p. 1).

This very active group holds regular meetings, workshops and conferences and provides an opportunity for an exchange of ideas and information. As part of this information sharing, the VAETT produces Learning materials in production, which is a regularly updated listing of learning materials being developed at a number of TAFE institutions within the State and is held in a data bank at Frankston College of TAFE.

Another useful reference tool is Resources in Victorian TAFE colleges which is published by the TAFE Board Library. The resources listed comprise both print and audio-visual materials produced by the contributing colleges.

Some commercial materials are also included. Supplements are published in May and August of each year and an annual cumulation is compiled at the end of each year.

Western Australia

Television facilities at Mount Lawley Technical College are used for both training and production. These facilities, staffed by a manager and four technical staff, provide a central television production and dubbing service to all TAFE colleges throughout the State. This service provides 30-50 individual video titles each year for individual colleges, curriculum groups and for the Technical Extension Service. It also provides a centralised audio production and dubbing service.

Funding and expertise for scripting and other developmental costs are the responsibility of the body requesting production, for example, a curriculum group or college.

The Curriculum Development and Research Section has, as one of its aims, the production of official documentation and associated teaching materials. It produces a wide range of learning resources or arranges to have them produced by Mount Lawley or other TAFE colleges, by the Technical Extension Service or by contracting to private media producers. It allocates funds for learning resource production on a priority basis.

By far the largest production house in the Western Australian system is the Technical Extension Service which has as its main aim the production of learning packages for distance education students. Although it produces mainly print materials, it also produces slides, audiotapes and videotapes. An interesting feature of the Western Australian system is the Technical Publication Trust which has been set up to reproduce and market instructional materials on a Divisional basis and recovers the cost of materials produced by sales to college bookshops.

All colleges have a library resource centre with facilities for the production of a limited range of audio-visual resources. The extent and sophistication of these materials depends on the priorities of the individual college with regard to the development of college-based learning materials.

At least one staff member responsible for the audio-visual area is attached to each LRC to assist teaching staff with audio-visual service and, in many cases, college-based productions.

EDUCATIONAL MEDIA APPLICATIONS—FUTURE TRENDS

The accelerating pace of technological change in recent years has resulted in spectacular achievements in electronics which are forming the basis of the new, information-based society. Given that the achievements of the next ten years can be expected to be even more spectacular, the impact of technological change on education will inevitably be far reaching.

The probable immediate future for educational media, is to be found in an extension of current directions, but on an increasing scale, as technology and software become cheaper and human resources more expensive. Technological developments in areas such as micro-electronics, fibre optics and lasers will create cheap, mass-produced equipment with the potential to revolutionise instructional delivery systems. The microprocessor revolution will continue and programmable personal computers will become (and are becoming) as common as personal calculators.

> **Media materials production** will be simplified by cameras recording images digitally rather than on film, by voice actuated word processor/photo composition systems and by computer graphics, videotape and videodisc technology will replace the conventional 16mm film, and satellite and microwave telecommunications will link the remote rural dweller with the inner-city inhabitant in a single distance learning system. (Brown & Kenworthy, 1980, p. 12)

In this section it is proposed to briefly examine the potential impact of some of these technologies on TAFE in the near future.

Microcomputers

Inexpensive, desk-top programmable personal computers are now available to undertake sophisticated computer-assisted instruction. The instructional modes that can be programmed include:

(a) **tutorial approach**—the computer presents material, asks questions to determine assimilation by the student and corrects any misunderstanding;

(b) **inquiry approach**—the student asks for specific information, the computer responds with relevant data;

(c) **dialogue**—the student asks a general question, the computer provides a complex answer, leading to further questions by the student;

(d) **explanation/interpretation**—the computer presents complex learning material and responds to general questions.

Microcomputers are also being coupled to other learning devices, such as TV sets, video and audio cassette playback units, videodiscs, or slide/tape packages, to provide an integrated learning system. Using this type of instruction, many different computer programs and data sets are being produced, distributed, and plugged into computers as needed.

An even greater impact can be expected from the pocket teaching computer now under development. In the view of Evans (1979) these pocket computers, no larger than the average pocket calculator, and selling at approximately the same price:

> . . . will, in the course of the 1980s, transform the educational system and at the same time create a new industry to capitalise on this development. Pocket calulators . . are very important straws in the wind, and the speed with which they have swept through the Western school system—while educationalists are still standing around uneasily musing whether they are a good thing or not—is an indication of the shape of things to come. (p. 119)

The flexibility of the new generation of computers, large or small, is, says Evans, virtually infinite, and the range of tasks they can perform is limited only by the range of programs which can be written for them. The implication for TAFE is that it is necessary to identify now those areas in which computer-aided learning can be most efficiently and effectively introduced.

Interactive video

Although educational television has proved a valuable resource for education over a number of years primarily for its usefulness as a mass communications device, its effectiveness as a presentation medium meeting the specific requirements of individual learners has been somewhat limited. However,

> . . . new developments in television recording technology are beginning to make possible a more learner-oriented approach to the use of television as an instructional medium, by allowing the prospect of a marked degree of 'interactivity' between viewer and programs, which at the limit will represent a totally individual experience for each person. (Duke, 1983, p. 12)

In a study sponsored by the Council for Educational Technology in the U.K. in 1983, Duke also reports that:

> . . . the convergence of computer and video-recording technologies has now reached a stage where it is possible by computer control of a videotape player to obtain sufficient random access to recorded sequence to utilize these as active components of an individualized learning scheme. Moreover, the emerging videodisc technology promises more important freedom to present high quality moving and still pictures in rapid random-access, or in slow motion, with great flexibility, under computer-guided sequencing. The advent of the videodisc, television's equivalent to the long-playing gramophone record, at last appears to release the television programme from the linear sequential format it inherited from the motion film; offers opportunities for constructive symbiosis between the computing and television worlds; and holds out to the educational technologist an exciting new component with which to construct interactive, individualized learning systems. (p. 13)

Videotex

Videotex is the generic term embracing broadcast teletext information and viewdata information transmitted along telephone networks. Teletext services broadcast coded 'pages' of written or simple graphic information inserted into the vertical image of the television program signal. The information is displayed on the screen of a normal television receiver using a special decoder.

Teletex was originally developed by the British Broadcasting Corporation in 1971. Since then, both the BBC and ITV have developed teletex services (known as 'Ceefax' and 'Oracle' respectively) offering up-to-date news, sports, weather and a wide range of other information services. Duke (1983) writes that . . . 'Broadcast teletext can also be used to carry computer programs. Special 'intelligent' television terminals are required to capture and decode the signals from the specially compiled master program and dump these into a cassette recorder. The BBC/Acorn microcomputer can also be adapted to receive programs broadcast over the BBC Ceefax Service. Viewdata is a comparable type of information service carried over telephone lines for which the user pays local call rates and a page charge. Unlike teletext, it is a two way system and the user is able to interrogate the data base by means of a key pad to obtain a specific item of information. It offers a virtually unlimited number of information pages, determined solely by the capacity of the computers supporting the service.

Probably the best known viewdata system is PRESTEL, developed by the British Post Office and now operating widely throughout the United Kingdom. Privately owned computers can be connected to the PRESTEL network utilising 'gateway' techniques, thus enabling subscribers to gain access to a number of database sources.

In Canada the Federal Department of Communications has developed a highly sophisticated screened-data system known as 'Telidon', which combines alpha-numeric text with an advanced graphics capability. The availability of sophisticated graphics offered by systems such as Telidon provides particular opportunity for educational applications in such areas as: illustrations in mathematics, science and technical subjects; comparative charts in economics and statistics; maps and profiles in geography and surveying; drawings and cartoons in adult literacy, and others.

Screened data systems are becoming established in Australia, such as the Elders and the Westpac commercial systems, and Telecom's viatel service begun in February 1985, while the Educational Techology Centre has been engaged in trials for the past year.

Possible educational applications which TAFE could make of screened-data systems include:

- as a replacement or alternative to conventional print activities, including an evaluation of the efficiency of electronic publication of specialised material:

- as a 24-hour information and retrieval system, releasing the learner from the restriction of college schedules;

- in computer-assisted and computer-managed learning;

- as a means of distributing career information.

Satellite communications

Australia's National Communications Satellite System (NCSS) is likely to become operational in late 1985. The system will provide a medium through which a number of communications technologies will be able to operate.

With the advent of the satellite system the Homestead and Community Broadcasting Satellite System (HACBSS) will allow direct broadcasting to remote areas of Australia. In addition to broadcasting services it will bring telephone and communications links to areas of Australia which are currently underserved.
A Commonwealth/State Advisory Committee on the educational use of communications technology was established in 1982 to recommend a balanced program of trials in the educational use of communications technology. The Department of Education and Youth Affairs chairs and services this Committee, which has members representing education authorities from all States and Territories, and consultant members from the university, college and TAFE sectors.

> The program of trials is intended to demonstrate ways of improving existing education services as well as developing new services which exploit the special features of communications technology. The emphasis is on the use of technology for educational purposes, rather than the technical trialling of equipment. Trials in the field of distance education at all educational levels clearly are of major importance, but the Advisory Committee sees merit in considering other potential educational uses in areas such as facilitation of system administration, distribution of teaching materials and resources, and campus linking for teaching purposes to provide balance in the program. (Advisory Committee on the Educational Use of Communications Technology, 1983, p. 1).

The Committee is liaising with appropriate communications authorities and organisations, including those developing the Australian domestic satellite system and has appointed a Communication Planning Task Force to plan for the educational use of AUSSAT (the Australian satellite).

Satellite communications, together with other communications technologies, offer the potential to deliver TAFE programs to students in remote areas at both trade and non-trade levels and to assist in providing other formal and non-formal forms of post-secondary education.

Despite this, TAFE Authorities have generally done very little in planning or in conducting trials for the future use of such technologies. If it is accepted that future teaching and learning methods will undergo far-reaching changes through the use of modern technology, the existing technologies described above represent only the first wave of this technological change, which if properly applied, has the potential to bring about a significant improvement in the quality of education.

POSTSCRIPT

Since this review was written the Victorian TAFE Board has approved the first phase of a significant initiative involving the educational use of the new technologies.

> This initiative will explore the potential of telematics to assist in the provision of learning programs to identified groups, and will develop strategies for further initiatives (Victorian TAFE Board, 1984, p. 1)

In an unpublished paper, *TAFE and Telematics* (1984, p. 1) the term Telematics is defined as

> . . . a generic term for all electronically based communication systems—for example, recorded and broadcast audio and video, computers, videotex, telephones and satellites—all of which have considerable potential for application in education.

The *Victorian TAFE Off-Campus Network* (TOCN) has been funded to carry out the first phase of this project which will

- identify and assess related activities and resources in TAFE and in other sectors of education
- identify an appropriate course of study
- select the target markets
- determine the telematic modes to be used
- develop evaluation criteria. (Victorian TAFE Board, 1984, p. 3)

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CAREER PATHS OF TRADESPERSONS
BY LUCIO KRBAVAC

The author wishes to thank his BLMR colleagues Norm Fisher, Peter Scherer, Bill Merrilees, Lynne Williams and Allan Stretton for helpful comments on this paper. The responsibility for interpretation and all remaining errors are the author's.

INTRODUCTION

In the last few years, some authors have discussed the issue of supply and demand for tradespersons, in particular the DOLAC Report (1980), Richardson (1981), Merrilees (1982), Wallace (1982), DOLAC Working Group (1983). One important result to emerge from these studies is the central importance of movement out of the trade as an element in the calculations. 'Replacement demand' or 'wastage' in many cases was found to be the dominant component of demand. Notwithstanding the importance of movement out of trade there is still a lack of good information on this issue as well as on other aspects of the careers of tradespersons. More recently, a number of studies has been completed which address the issue of wastage from trade and, to a varying degree, the theme of career paths of tradespersons.

Information on career paths, and the movement out of trade in particular, is important in forecasting supply and demand but the significance goes deeper. Career movements of tradespersons have implications for education and training, and therefore for educational authorities, employers and governments. There are many issues relevant to policy which analysis of career paths helps in clarifying. For example, knowledge of the extent of movement out of trade, the occupations moved to and the reasons for the movement can aid in assessing whether trade training is being used efficiently both from a personal and social viewpoint, whether there is a need to offer more direct training for occupations that tradespeople move to, and what may be the best and most efficient ways to effect the outward flow from the trades, if this is considered desirable.

The particular aspects of career path of most interest from a labour market perspective are the use made of trade skills and human capital accumulated during training and how far this training forms the first stage in a career-long accumulation of related skills. These issues can be addressed by an analysis of the job and training history of individuals, or, at the very least, of gross flows.

However, a tradesperson will generally hold several jobs during a working life—in and out of trade, and at differing levels—and not necessarily in a systematic progression. This complicates career path analysis, but insights can be gained by concentrating on the major aspects of career path, and, for this purpose, relatively simple flow analysis is an adequate methodology. The available sources of information essentially provide data which are suitable for this type of analysis only, although some sources hold data on career path which could be analysed in greater detail.

This review collates systematically the information from several sources on three major aspects of career path of tradespersons: the time spent in trade, the destination of those who leave, and the motives for doing so. Furthermore, given restrictions imposed by available data, the review deals only with the career path after completion of training for apprenticed tradespersons.

SOURCES OF INFORMATION

The main sources of information are surveys of tradespersons and census data, all of which have been undertaken within the last four years but with different coverage of regions, trades and time period. Two surveys have covered most trades nationally, namely Australian Bureau of Statistics (ABS) (1982), and National Training Council (NTC) (1983). Other surveys have restricted attention to individual States and particular trades; the main analyses include the NTC (1983) survey of apprenticed tradespeople, Queensland Industry and Commerce Training Commission (ICTC) (1983), NSW TAFE (1983), and Hocking and Burns (1980). Several other more restrictive sources, have been of some help for this review, but of lesser importance. While the two national studies have covered tradespeople who had graduated up to 40 years before the survey, the State studies surveyed tradespeople who had completed courses some 2 to 10 years before the survey. A description of all sources is presented in Appendix A.

Further differences between the studies concern sample size. The ABS national survey covered almost 4,000 tradespersons, but other studies have been much smaller: for example, the Hocking and Burns Tasmanian study and the NSW TAFE study covered only 109 and 82 persons respectively. These differences should be kept in mind when considering results from these various sources.

Two studies currently in progress, and due to report in the next year or so will be of considerable importance for detailed analysis of career path. These are the Centre for Research in Education and Work study for the NSW Council of TAFE on retention of tradespeople in their trade, and the study by the National Training Council of apprentices, in two States, one year after completion.

OVERVIEW OF CAREER PATH PATTERNS

The first major aspect of career path is the extent to which trade qualified persons spend time working as a tradesperson. Three main career groups can be identified: persons who never work as a tradesperson after completing an apprenticeship, those who will always work as a tradesperson, and those who spend only part of their working life as a tradesperson. The survey conducted by the ABS in 1982 (see Table 1) indicates that these groups represent approximately 6 per cent, 37 per cent and 53 per cent of the total respectively.

Those who spend only part of their working life as a tradesperson may do so in one long continuous span or in several spans interspersed with work outside the trade. While for the first group there is a precise notion of the career span spent as a tradesperson, the span is less precise for the latter group. Thus it is important to document not only the time spent as a tradesperson, but whether this is continuous or not. The information on this latter aspect is not readily available but there is some information on the frequency or quantity of changes between trade and non-trade jobs. The first task of Section 6.4 of the review is to discuss job changing and time spent as a tradesperson.

The second major aspect of career paths is the destination of trade qualified persons on leaving a job as a tradesperson. In particular, the relevant question is whether such movements are to trade-related or to non-trade-related jobs. This is an important indication of how far acquired skills are being utilised. As a consequence, it is natural to inquire into the motivation for such movements. This aspect is covered in Section 6.5 while the former aspects are dealt with in Section 6.4.

TABLE 1

TRADE STATUS OF TRADE QUALIFIED PERSONS, BY YEAR IN WHICH QUALIFIED

(%)

Trade Status	Year of Qualification						
	Pre 1940	1940 -49	1950 -59	1960 -69	1970 -79	1980 -82	All Years
Never worked as a tradesperson	6.9	5.9	5.2	7.7	5.3	8.8	6.4
Never had a break of at least one year from trade	-	36.9	38.3	40.4	53.5	73.1	47.2
Had one or more breaks from trade	93.1	57.2	56.5	51.9	41.2	18.1	46.4
All Persons	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: **ABS: Career Paths of Persons with Trade Qualifications, Australia, September to November 1982 (Preliminary). (Cat. No. 6424.0)**

CAREER PATH PATTERNS

Job changing among trade qualified persons

Early career of trade qualified persons. The ACER (1983) surveys indicate that about 32 per cent of persons in the sample, on completion of apprenticeship training, had not gone to a skilled manual occupation,[1] (about one quarter had taken a white collar job and two thirds semi-skilled or unskilled jobs). The NTC study, on the other hand, showed that 18 per cent of these first jobs had not been in the trade, although only half were not trade-related. The difference between these two estimates may be due to the differences in periods and trades covered, but this notwithstanding, the estimates indicate that a surprisingly high proportion of persons completing apprenticeships—one in five to one in three—do not start in trade.[2,3]

However, within only a short time, most of these apprenticeship graduates come back to work as tradespersons. Thus, the ABS survey data, as shown in Table 1, indicates that by the third year after completion, only 8.5 per cent had not worked as a tradesperson. This is a very significant decrease in the percentage from some 18 to 32 per cent who do not start as tradespersons to 8.5 per cent who have not yet worked as a tradesperson three years later.[4] This percentage can be expected to fall slightly further in later years again as more trade qualified persons take jobs as tradespersons, but there is probably some 5 or 6 per cent who never work as tradespersons. In fact, Table 1 suggests that all those who are ever going to work in trade will start a job as a tradesperson within the first 13 years after apprenticeship completion as the percentage of those who never worked in trade is almost constant thereafter.

One important issue of interpretation should be noted. The ABS survey referred to above does not provide the career paths of a single cohort, such as the cohort of graduates from 40 years or so. Consequently, the career path changes noted above are not actually observed, as would occur if a single cohort were followed through, but rather are inferred. However, provided that there were no differences in the average personal and labour market characteristics of the individuals over time, the career path inferred would be reasonably similar to that observed, except for the impact of external factors, such as labour market conditions and social attitudes, which do change over time. For example, the career pattern inferred for the first three years after graduation from the ABS survey are those of the post-1980 graduates but this pattern would be expected to differ from that of the 1970 or 1940 graduates. It would be desirable to separate out the constant career path elements from the variations flowing from the labour market and social attitudes, but the data (and analysis to date) do not permit such sophistication. This construction of a "synthetic cohort" from data at a point in time, however, is the technique that is used by demographers in constructing aggregate measure of mortality, for example.

These reflections on the ABS survey data also apply to other surveys[5], and this should be borne in mind in the interpretation of the data. However, for our purposes the data are taken to provide a reasonably accurate picture and it will be convenient to refer to the situation of those who qualified 10 years ago (say) as the typical experience 10 years after graduation.

Job changing in the later career of trade qualified persons. The evidence points to considerable job changing after the first phase of the career of trade qualified persons. The NTC survey showed that in the first 10 years after completion of an apprenticeship, half the individuals had held three jobs and about one fifth had held more than five jobs. Job mobility was greater in the building trade group, especially after the third job, than in the metal trade group.

The Queensland ICTC (1983) survey indicates an even greater degree of job mobility; for example, people had held four jobs on average in the first 10 years after completing an apprenticeship. More interestingly, the greatest mobility seems to be in the earlier years, so that individuals had held 2.6 jobs in the first 2 years, 3.4 in the first 5 years and 4.0 in the first 10 years.

Separation of job changes into the categories in and out of trade, provides an interesting pattern. The ICTC survey indicates that the job changes are divided as shown in Table 2.

TABLE 2

JOBS IN AND OUT OF TRADE HELD BY TRADE QUALIFIED PERSONS, TWO, FIVE AND TEN YEARS AFTER GRADUATION

Years after graduation	Total jobs	Jobs in trade	Jobs not in trade	Jobs not in trade as a % of total job
2	2.6	1.9	0.7	27.0
5	3.4	2.6	0.8	23.5
10	4.0	2.9	1.1	27.5

Source: Queensland ICTC (1983)

That is, non-trade jobs are most important in the first 2 years, less so in the next 3 years, and again significant in the span 5 to 10 years after completion.[6]

The NTC survey confirms this general pattern and provides more detailed job histories. The movement out of trade is quite high for the first and second job change, decreasing considerably thereafter. While for the first two job changes the movement out of trade exceeds the return to trade, these offsetting movements are about equal by the fourth job. Interestingly, the NTC survey found that almost a third of trade apprenticed tradespeople who had started in a job out of trade returned to the trade for the second job, as did about a quarter of those in trade-related jobs.

These net movement statistics certainly indicate the possibility of continuous movements in and out of trade, but none of the data sources actually document individual job changing habits. It is thus not possible to identify whether these changes are due to a few individuals making many moves or whether changing is more widely spread.

Time spent in trade

This discussion indicates that useful measures of time in trade would include not simply the time until trade is finally abandoned, but also the sum total of time in trade jobs and the time to the first break from trade. The ABS survey is the only source which can provide information on the latter aspect, while no other source provides information directly on the first two aspects.

The published information from the ABS survey, as presented in Table 1, indicates that just over a quarter of trade qualified persons have their first break, of a year or more, from trade within the first 3 years, a further 20 per cent in the next 10 years and 13 per cent in the 10 years after that.[7] Individuals do not seem to break from trade after 20 years, if they had not already done so before.

The available information, while not able to suggest how long people stay in trade before they abandon it, does indicate indirectly how much total time individuals spend working in trade. A profile of the proportion of a given cohort still in trade, provides the basis for estimates of average or net length of time spent in trade, although this may not be continuous.

The census data, as presented in Table 2, show that the proportion in trade decreases more or less equally between the age groups 15-19 and 20-24 and between 20-24 and 25-34, and thereafter the proportion is essentially constant.[8] The average time spent in trade can be calculated as almost 23 years, although about 45 per cent spend less than 10 years in trade.

Table 3 presents the evidence on the proportion of trade qualified persons working as a tradesperson from the five main surveys. The information from the census, the ABS and the NTC (omnibus) surveys are quite comparable in terms of coverage and the results are encouragingly similar.[9]

These differ somewhat from those of the other surveys, but this is not altogether surprising, given the differences in geographic coverage, trade, and age groups. A significant difference exists, for example, in the estimated proportion holding a trade job after ten years between the surveys conducted in Queensland and Tasmania, and the national surveys and the NSW survey—the former estimates are lower. The study by Broom et al. (1980) also shows that just over half of those who had started as skilled manual workers were still so employed 10 years later.

A useful way to condense this information is by calculating a 'wastage rate'. Given the preceding discussion on job changes, it is clear that the usual notion of a wastage rate as an abandonment of trade is inappropriate and that a wastage rate in terms of a loss rate from potential tradespeople-hours is a more useful concept. The census, the ABS and NTC survey imply a wastage rate of about 5 to 6 per cent p.a. over the first ten years after completion of an apprenticeship, and a long-term rate (over 40 years) of about 1.5 per cent p.a.[10]

There are differences between trade groups in the proportion working as a tradesperson with increasing age. The census provides the only detailed long-term information, and this shows that among the major trade groups, electrical trades have a higher proportion in trade in each age group, by as much as 10 percentage points in some cases, than either the metal or building group, which are themselves quite similar. This may partly reflect the fortunes of the related industries during the last 20 years or so, but generally these results are not unexpected.[11]

Are tradespersons more occupationally mobile than other workers? The data from Williams (1979 and 1980) suggests that skilled blue collar (building) and skilled blue collar (other) (this excludes metal, electrical and building skilled workers but includes all other skilled workers) had higher overall rates of occupational mobility in the 12 months prior to November 1972 and 1975 than workers in other major occupational groups. On the other hand, there was also considerable movement into these occupations and the net outflow was only slightly more than for other occupations. Indeed, the net outflow was greatest for the skilled blue collar (metal and electrical) occupation group.

TABLE 3

DESTINATION OF TRADE QUALIFIED PERSONS SOME YEARS AFTER COMPLETION OF TRAINING

Source (and survey Year)		Year of completion of training or Years after training completed	Working in trades	Not working in trade			
				Using Trade skills	Not using trade skills	Never worked as trades-person	Total
NTC[2]	(1981)	1970-79	53.2	24.7[1]	18.9		43.6
		1960-69	49.4	20.2	26.3		46.5
		1950-59	43.0	21.1	21.1		42.2
	(1981)	0-5	76				24
		6-10	44				56
ABS[3]	(1982)	Before 1940	34.4	20.6	34.4	6.9	61.9
		1940-49	46.9	14.1	26.8	5.9	46.8
		1950-59	48.9	16.6	26.3	5.2	48.1
		1960-69	53.1	15.8	20.4	7.6	43.8
		1970-79	63.4	10.3	15.9	5.2	31.4
		1980-82	73.1	4.0	6.3	8.8	19.1
ICTC[4]	(1981)	1970-71	29.6	46.5			66.4
		1975-76	45.3	34.3			51.6
		1978-79	53.4	25.9			43.2
NSW TAFE	(1980)	1970-79	50.0	16.7	33.4		50.1
Hocking & Burns[5]	(1980)	1953-54, 1958-59,	35.0	46.0	17.0		63.0
		1963-64, 1968-69	62.0	15.0	23.0		38.0

Notes:

1. Category includes trade related occupations as well as managerial and supervisory positions.

2. Residual covers 'no occupation'; the first set (Part I) of results refers to the omnibus survey and the second (Part II) to the interview survey.

3. Residual is unemployed. The percentages are of those in the labour force at the time of the survey.

4. Residual is unemployed, incapacitated, student, no response.

5. First set of figures refers to the fitting and machining trade and the second to carpentry and joinery.

These higher rates can be partly explained by two factors, as noted by Williams (1979). Firstly, by the overlap in the IMPACT occupational classification in the skilled and semi-skilled blue collar areas. Secondly by the subdued labour market conditions in 1972 and particularly 1975, which particularly affected the employment of building tradespeople and to a lesser extent that of other trade groups.

TABLE 4

PROPORTION OF TRADE QUALIFIED PERSONS IN THE WORKFORCE USING THIS QUALIFICATION, BY AGE, AT 30 JUNE 1976

%

Qualification	15-19	20-24	25-34	35-44	45-54	55-64	65+	Total
Trade -								
metal	79.7	68.9	57.4	53.6	54.2	56.6	33.7	57.6
electrical	82.6	78.1	66.7	60.9	60.7	61.3	45.9	66.3
motor	79.4	65.9	50.2	42.7	43.5	40.7	23.3	50.3
building	70.5	67.0	57.8	52.4	52.3	53.4	34.5	56.2
printing	87.6	69.7	56.8	53.8	54.6	56.6	46.6	57.9
clothing	46.6	35.3	25.4	22.7	22.4	24.2	35.2	24.8
other	83.8	70.2	53.6	48.1	45.0	48.6	46.8	55.3

Source: BLMR analysis of 1976 census matrix tape MTX22.

What is the direction of movements out of trade?

As trade qualified persons do take jobs out-of-trade it is important to ask: what are the occupations of non-trade jobs, are these trade-related or not, and what is the direction of these movements?

TABLE 5

PERSONS IN WORKFORCE REPORTING TRADE QUALIFICATIONS, CLASSIFIED BY OCCUPATION AND AGE 30 JUNE 1976

Occupation	Age							
	15-19	20-24	25-34	35-44	45-54	55-60	65+	Total
Professional	0.5	0.4	1.2	1.4	1.2	1.0	1.3	1.3
Technician	0.4	0.8	1.5	1.6	1.9	1.8	0.3	1.5
Administrative	0.0	0.0	0.2	0.3	0.4	0.3	0.2	0.2
Directors	0.1	1.1	6.1	10.9	10.4	8.0	12.6	7.4
Salesmen	0.0	0.5	1.6	1.8	1.4	0.9	1.5	1.3
Clerical	0.6	1.1	1.8	2.1	2.8	3.2	3.1	2.0
Shopkeepers	0.6	1.6	2.6	2.9	3.0	2.8	4.3	2.6
Farmers/Miners	0.6	1.7	2.0	2.3	2.2	2.2	1.5	2.1
Workers in transport, communications	0.5	2.3	3.8	3.7	3.4	2.8	2.5	3.3
Same trade	77.5	69.2	56.9	51.2	51.9	51.2	36.4	56.2
Other trades	4.1	4.8	5.5	5.2	5.2	5.7	5.6	5.2
Semi-skilled	8.2	7.5	8.3	9.2	9.7	10.4	9.7	8.8
Labourers	1.4	2.4	20.6	2.1	2.2	2.6	2.6	2.2
Service, Sport	1.1	1.9	2.9	3.0	3.2	4.0	7.3	2.4
Armed Services	3.0	3.3	2.2	1.1	0.4	-	-	1.6
Inadequately described	1.9	1.4	1.3	1.3	1.4	2.0	5.8	1.5
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: BLMR analysis of 1976 census matrix tape MTX22.

Occupations of persons out of trade. Available survey data generally do not identify the actual occupations of those trade qualified persons who have taken an out-of-trade job. In the NSW TAFE study such persons were found to be employed in a number of different occupations, from truck driver to policeman and ironworker. The census provides the most useful data in this respect. Table 5 indicates that trade qualified persons were employed in occupations as diverse as professional/technical, administrative/managerial, sales, clerical and service, sport and recreation. The census also confirmed what many have expected: that trade qualified persons are more dispersed across the occupational range than persons with any other form of qualification.[12]

Are these occupations trade-related? The information on occupations, especially at the broad level, does not indicate whether trade skills are still being used even if only in part. The NTC survey employed an occupational classification which is more useful for examining occupational change by trade qualified persons. Essentially, the movements away from being an employee tradesperson can be categorised as:

- working in trade but in self employment or as an employer;
- promotion to higher status within trade (e.g. foreman);
- promotion to higher status occupations in same broad occupation category in which trade skills are still important e.g. technician, manager;
- movement to an occupational area related to trade, e.g. engineering, salesman, trade teacher, government inspector;
- movement to another occupation where trade skills are irrelevant, e.g. truck driver, policeman, clerk.

The first three movements are generally labelled, in broad terms as being in-trade, the fourth as trade-related and the fifth as out of trade.

Table 4 indicates that a large proportion of persons not actually working in trade are still using their trade skills. For example, the NTC, ABS and ICTC surveys indicate that only some 15 to 23 per cent of those who had completed trade qualifications in the 10 years prior to the surveys were not using trade skills in some way. That is, about as many were working in trade related jobs as were employed as tradespersons.[13,14]

In Table 3, an estimate was presented of wastage from trade work but an alternative measure is the wastage from use of some trade skills. Thus, over the first 10 years after completion of an apprenticeship, the wastage rate in the 'use of trade skills' is only between 3 and 4 per cent p.a. (compared to 5 to 6 per cent for working as a tradesperson) while over the 2[illegible] years horizon it is only about 1.5 to 2 per cent p.a.

What is the direction of these movements? Some movements can be considered to be occupational advances such as promotion within the trade or to higher status positions in the same occupation category, e.g to foreman or technician positions. Other movements are, in effect, made sideways, while some are even occupational regression, e.g. to semi-skilled or unskilled positions. While promotion and lateral movements, especially to self employment, suggest pull factors were the main motivation, the movements sideways, and downwards seem to indicate push, rather than pull factors, at work.[14] These motivations will be considered in the next section.

Table 5 presents census data on occupation of trade qualified persons at various ages. The recognisable regression into semi-skilled and unskilled positions represent about 11 per cent of total, at all ages, indicating that this movement is generally well established from the earliest years of the trade careers.

The advance and lateral movements within the trade merit further analysis: they are numerically the most significant[16] and are a kind of career progression. The movements which are discussed here are those to supervisory (foreman, manager) and technician positions, and those to self employment.

Some broad indication of the importance of these movements are available from Table 6. The first point to note, from the ICTC and NTC surveys, is that the major movements to supervisory positions and to self employment occur in the first 10 years. The transition to supervisory positions continues for many years after but at a slower rate, but the movement to self employment essentially stops after the first 10 years (at least in net terms).[17] The movement to technician or post trade level positions is of lesser significance and less than might be expected. Even 10 years after completion of trade training only 4.5% of individuals had gone to technician positions (see Table 6), and this percentage seems to remain constant thereafter (see Table 3). There are clearly differences in movements between trades, but these cannot be explored with the available data. Some further points about these movements are presented below.

TABLE 6

OCCUPATION OF TRADE QUALIFIED PERSONS BY YEAR OF COMPLETION OF TRAINING

(a) NTC Survey

Occupation	1970-79	1960-69	1950-59
Tradesmen	25.3	14.3	17.2
Promoted in trade	12.1	17.9	10.9
Self employed/Employer	15.8	17.2	14.9
Trade related	16.3	7.7	8.6
Out of trade	12.6	10.1	9.4
Administration/Sales	0.5	4.8	0.8
Managerial/Supervisory	7.9	8.9	11.7
Self-employment	2.6	5.4	7.0
Teacher	0.5	3.6	0.8
Public servant	3.2	6.0	3.9
No present occupation	3.2	4.2	14.8
Total	100.0	100.0	100.0

(b) ICTC study

Occupation/Area of work	1978-79	1975-76	1970-71
Tradesman	53.4	45.3	29.6
Supervisor/Foreman	4.3	8.4	12.5
Technician/Post-trade	3.7	2.7	4.5
Other, requiring trade skills	7.7	6.2	14.2
Not requiring trade skills	13.9	12.3	12.5
Trade based Self employed/Employer	10.2	17.0	15.3
Non-trade based Self employment/ Employer	3.4	5.0	7.4
Other	3.4	3.1	4.0
Total	100.0	100.0	100.0

The pattern that emerges from the ICTC and NTC studies is that about 12% of trade qualified persons are promoted to foreman/supervisor positions in the first 10 years or so after completing an apprenticeship and that this proportion rises steadily during this period. The proportion increases thereafter so that after 20 years about one in six trade qualified persons is at foreman or supervisory level.

Movement to technician positions does not seem to be as significant an avenue of advance for trade qualified persons as would be expected. This result, derived from the Queensland survey could understate the movement for a number of reasons, but the limited evidence from other sources tends to confirm the broad nature of these findings.[18] Interestingly, the ICTC survey suggests that over half of those working as technicians some ten years after completion of trade training had started in a technician position within two years after completing trade training. Although unconfirmed, it is quite possible that movement to technician positions is an intermediate step to a management position later on.

Self employment for tradespersons is an important career option. The census data show that self employment is far more likely among trade qualified persons than among those with any other qualifications.[19] Furthermore, census data, presented in Table 7, show that the proportion in self employment at first increases with age, particularly in the age groups 20-24 and 25-34, but then peaks in the age group 35-44 and thereafter decreases, until most employees retire at 65. This pattern is confirmed by the results from the NTC and ICTC studies in Table 8. (Although the ICTC study shows more self employed within the first ten years, this may reflect differences in trades covered.)[20] Overall, some 15% of trade qualified persons are working as a self employed tradesperson within ten years of completing an apprenticeship.

There are significant differences between trade groups, as is indicated in Table 7. For example about a third of all building tradespeople are in self employment (or employ others) by the age of 25-34. The ICTC study indicates that this proportion is greater among bricklayers and plumbers and lower among painters and decorators. In the other major trade groups, self employment is considerable in the motor trade, but relatively low in the electrical and metal trade groups.

The ICTC study suggests that, apart from self employment in the trade, self employment outside the trade is also important. The first movement to self employment seems to be within the trade but later movements to self employment include a fair proportion to non-trade businesses. Thus, for example, after ten years, 22.7 per cent of the Queensland sample were in self employment but just 15 per cent were in a trade based business, compared with the situation after two years in which 13.6 per cent were in self employment with 10.2 per cent in a trade based business.

TABLE 7

EMPLOYER/SELF EMPLOYED AS PROPORTION OF PERSONS IN TRADE OCCUPATIONS[1] BY AGE AT JUNE 1976

(%)

Occupation	Age							
	15-19	20-24	25-34	35-44	45-54	55-60	65+	Total
Trade -								
metal	0.3	1.6	4.4	5.6	5.4	5.4	25.5	4.3
electrical	0.1	2.4	8.6	10.9	9.7	7.4	39.0	7.0
motor	0.4	4.8	15.7	19.1	16.5	13.9	30.0	11.4
building	1.9	16.9	33.2	34.1	27.4	21.8	32.2	25.3
clothing	1.4	10.4	17.6	18.2	18.9	24.6	35.8	16.4
printing	0.2	1.4	4.3	6.4	5.9	8.2	19.7	4.7
other	1.2	9.6	20.4	22.7	20.8	17.9	20.9	15.9
Sub total	0.9	6.8	16.3	18.7	15.5	13.7	27.1	13.1
Semi-trade	0.7	3.2	7.4	7.6	5.8	4.9	11.8	5.7

Source: BLMR analysis of 1976 matrix tape MTX21.

Notes:

1. This table refers to persons who are employed in trade occupations. Hence it includes those who report trade qualifications as well as those who do not report trade qualifications. It was not possible from the matrix tapes available to cross classify occupation, qualifications and occupations status at a sufficiently detailed level for the analysis.

TABLE 8

SELF EMPLOYMENT AMONG TRADE QUALIFIED PERSONS, AS PERCENTAGE OF TOTAL EMPLOYMENT.

Source (and year of Survey)	Year of completion of training	Working in trade as		
		Self-employed	Employer	Total
NTC (1981)	1970-79	9.5	6.3	15.8
	1960-69	9.5	7.7	17.2
	1950-59	6.3	8.6	14.9
ICTC (1981)	1970-71			10
	1975-76			17
	1978-79			15

Further training

Advance to supervisory and technician positions may be expected to be associated with further training but unfortunately information on this aspect is quite limited. The NTC pilot survey asked persons to state what additional qualifications had been obtained but these results have not been analysed. The ICTC study noted whether further study had been undertaken. This indicates that within two years of completion of trade training, 29.0 per cent of tradespersons had taken some further training, the percentage rising to 30.9 per cent after five years and 40.3 per cent after ten years. This percentage was highest among those currently working as technicians, but as these are only a small proportion of the sample (less than 5 per cent), considerable further training must also be undertaken by those not working as technicians and particularly by those in or aiming for supervisory and managerial positions.[21] It would be desirable, of course, to have greater breakdowns of the training, at least by type and by occupation (current and expected) of those undertaking it, and the current trades study by CREW for the NSW Council of TAFE will meet this need.

MOTIVES FOR MOVEMENTS OUT OF TRADE

The reasons why some tradespersons advance to managerial/supervisory or technical positions, or possibly to self-employment in the trade, are not too difficult to conjecture. Overall, these jobs offer better pay and more rewarding or varied work with the possibility of continual improvement. It is not as reasonable to conjecture about regression to trade-related or non trade-related jobs. This is, nevertheless, an important issue and all surveys of career paths have included questions on reasons for leaving the trade.

Table 9 summarises the evidence from the surveys. Basically, better pay and/or working conditions and the opportunity for improvement in the alternative job are the reasons most commonly given for leaving the trade. Unfortunately, it is generally not possible to differentiate the reasons given by those who had left to advance from those who moved laterally or regressed. Nonetheless some insights can be gained.

The ABS survey provides the clearest evidence. Persons advancing to managerial/supervisory positions[22] generally indicated promotion as the main reason for leaving work as a tradesperson, with seeking better pay/security as the second most important reason, although the difference between these two reasons in such cases is quite blurred. On the other hand, for those who moved to jobs where trade skills were not being used, the main reasons given were seeking more pay and, quite simply, wanting a change. On the other hand, a significant minority (12.0%) indicated that being laid off and decline of trade were the main reasons; that is, they were pushed out.[23]

The reasons for leaving the trade given by persons who eventually returned to work as tradespersons were also quite interesting. The main reason was 'wanting a change', but the next most important reason was 'seeking more pay/security'. Given that these people eventually returned to trade, this may indicate a certain propensity among tradespersons to seek short term benefits outside the trade with the knowledge that they can return to the trade at a later stage.

The NTC and the ICTC studies broadly confirm the central importance of pay in the decisions to leave the trade.[24] The NSW TAFE study on fitters and turners provides some additional (secondary) reasons, namely 'lack of promotional opportunity' and 'loss of interest in the trade' but managers and supervisors who had been interviewed as part of the study were of the view that lack of margin for skill was the prime reason. The [illegible] and [illegible] ([illegible]) study found that wages and job satisfaction were the principal reasons, although many fitters and turners also indicated their dislike of dirty working conditions and repetitive work while carpenters emphasised job security.

A survey conducted by the ABS between February and May, 1979, on working conditions noted that trade qualified persons were the least satisfied workers with regard to pay, and pay was desired as an improvement by a significantly greater proportion of trade qualified persons than by any other qualification group.

Finally, it should be noted that the seeds of the decision to leave trade may form well before completion of apprenticeship. Suporting this notion are the results from the NSW TAFE study.

This found that some 45 per cent of Stage III apprentices claimed that they expected to leave the trade within a few years of completion, and that for about half of the sample of tradesmen and students interviewed, fitting and turning was not the preferred career choice; for about half of them, another trade was preferred.

What would induce trade qualified persons currently not working as a tradesperson to return to the trade? The NTC study asked this question of persons who had completed training within the last 10 years, and perhaps not surprisingly, the most desired incentive was better pay, with better work conditions (including shorter hours) and job security the next most important incentives. Nevertheless, about one quarter indicated that no incentive would be adequate and one-fifth were unable to reply. The study report did not indicate, however, whether there were differences according to time out of trade. The NSW Council of TAFE study will address these issues in more detail.

TABLE 6

REASONS FOR LEAVING TRADE (%)

[illegible]

	[illegible]	[illegible] (%)	[illegible]
Laid off	5.3	3.9	*
Seeking more pay/security	29.0	25.9	22.3
Seeking better working conditions	7.2	7.0	*
Promoted	7.6	37.3	*
Wanted a Change	23.9	15.2	33.1
Family/Personal Health	14.5	4.8	17.6
Decline of Trade	6.7	*	6.7
Other	5.9	3.6	9.8
Total	100.0	100.0	100.0

(b) ICTC

Reason	Year of 1978-79	Apprenticeship 1975-76	Completion 1970-71
Opportunity to progress in your trade or to start own business	28.3	36.0	28.2
Better pay/working conditions	33.6	26.2	35.9
More security	9.2	11.4	15.4
Unable to find job as tradesman	7.2	5.8	2.6
Other (i.e. non-trade advancement, job satisfaction, more interest)	13.9	15.4	15.4
Incapacity	0.0	1.3	0.9
Less physically demanding than trade work	0.7	0.9	0.9
Total	100.0	100.0	100.0

(c) NTC Survey (All apprenticed)

Reason for leaving by persons who are no longer in trade[2]		Reason for leaving trade work the first time	
Like present job	15	Employer	3
Dislike factory work	2	Working conditions	2
Not secure	5	More money	16
Pay was not good	26	Variety	9
Opportunity/improvement	47	Opportunity	32
Other	20	Own business	4
Can't say	18	Retrenchment	24
		Other	10
		Total	100

Notes:

1. Anyone who had had a break of one year or more from trade sometime in their career was asked them for reason for leaving the trade on that occasion. The table cross classifies reaso useage of trade skills in current job. Asterisks (*) in table indicate that numbers were too small for publication.

2. These percentages are based on a multiple choice set of answers and may not total 100 per cent.

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LIMITATIONS OF PAST RESEARCH ON CAREER PATHS OF TRADESPERSONS

A major problem to date has been the lack of suitable data bases on career paths, but in the last 2 or 3 years some large and reasonably detailed surveys have been conducted which provide much better sources than in the past. However, there are still several limitations in these sources which can be grouped into three categories: incomplete analysis, partial coverage of the trade workforce, and shortcomings in the collected data. These are discussed below:

(a) Past research has essentially concentrated on the broader issues, such as flows into and out of trade employment, which have required quite straightforward tabular analysis. The data sources, however, do provide quite a reasonable set of data items which permit more sophisticated statistical analyses, particularly if supplemented with additional information on labour market conditions (e.g. wages and unemployment rates). This may enable the establishment of a link between flows and underlying reasons. This should be the next stage of research.

(b) To date, surveys of the career path have concentrated almost exclusively on persons who qualified through an apprenticeship, ignoring those who arrived from overseas and those who have been upgraded. There is little, but strong, evidence that the career paths of these groups are quite different. It is important that their experience be documented, since they appear to comprise a sizeable proportion of the group being considered (upgraded tradespeople appear to represent up to 20 per cent of stock and overseas migrants represented between 15 and 30 per cent of new additions to stock during the last 15 years).

(c) Decisions about career choices are often made well before completing and sometimes even before starting an apprenticeship. Consequently, a career path analysis of tradespeople should logically begin in future surveys and studies at least at the commencement of the apprenticeship period.

(d) Current data sets do not permit a direct calculation of the time spent in trade, because they did not seek to document the job history of individuals, but rather only the current job. What is required is a well documented job history of individuals from several different cohorts, i.e. a longitudinal study, so that the career pattern can be established over a whole set of labour market conditions. Of course, the unavailability of such data also precludes a proper analysis as suggested in (a), since it is not generally known when and why trade qualified persons change jobs.

(e) Related to (d) is the fact that by concentrating on current job rather than job history a number of intermediate career steps may be missed. For example, if the transition from trade to manager is often via the technician level, this latter movement may be missed out if only current job is asked of those who had qualified 10 years ago and are now managers.

(f) It would appear important in understanding the career path of individuals to have greater knowledge of personal and employer characteristics and attitudes as well as of the prevailing labour market conditions. These dimensions are generally missing from current sources.

(g) The issue of motivation for leaving the trade, while generally well covered in surveys, is somewhat incomplete. The surveys have asked for first move out of trade or for last move out of trade before current job. What is required are reasons for each move in and out of trade and by stage of career, and, in particular, reasons for returning to trade.

(h) As there are differences between trades, even within trade groups, in the career paths, it is necessary for policy purposes to have data from surveys on individual trades, rather than on trade groups or on the entire trade workforce.

CONCLUSION

This review of the available evidence on career paths of tradespersons suggests that there is considerable net mobility out of trade, but that over a complete career individuals also move in and out of trade more often than was thought. The main movements out of trade are advances to trade or trade related jobs, although a significant percentage are regressions.

Overall, the usage of trade skills, even by those not working as a tradesperson, is high. The main reasons for leaving the trade appear to be pay and conditions and job security, although other reasons are also important.

The review also identified a number of areas in which current sources are deficient, particularly in terms of coverage of the workforce and in the range of issues covered.

ENDNOTES

1. It is not possible to identify from the published data whether all exits from apprenticeship were due to completions. Some of these exits may have been due to apprentices dropping out before completion which would reduce their opportunity of gaining trade jobs, and hence the movement to non-trade jobs indicated by these data is upward biased.

2. The ACER survey covered a random sample of persons who had been 14 years old in 1975 and was conducted in 1979, 1980 and 1981. This part of the NTC survey covered persons who had completed an apprenticeship up to ten years before the survey in the metal, electrical, motor and building trades.

3. Partly in recognition of the importance of wastage in the first year, the NTC has commissioned a study of the class of 1982 to explore among other issues, the labour market experience of apprenticeship completers in their first year out.

4. The 8.5 per cent actually represents an average of those who had completed some time between 1980 and the survey date, 1982. If only the percentage of those who had completed in 1980 (3 years before the survey) could be estimated, this is likely to be somewhat lower, as the percentage is expected to decrease with time out of apprenticeship.

5. The exception is the ANU mobility survey, documented in Broom et al. (1980), which allows the career path of different cohorts to be analysed separately. However, the sample of tradespeople is quite small and separation into cohorts is not feasible on statistical grounds.

6. This can be derived from the data in Table 2. In the first two years after graduation, 27.0 percent of all jobs are not in trade. For the next 3 years, only 12.5 per cent (0.1 out of 0.8) of all new jobs taken on during that period are out of trade. On the other hand, in the period 5 to 10 years after graduation, 50.0 per cent (0.3 out of 0.6) new jobs are not in trade.

7. Table 1 presents data on those who never had a break of a year or more from trade by year of graduation. The percentage whose first break is within the first 3 years is 26.9 (= 100-73.1), within the next 10 years it is 19.6 (= 73.1-53.5), etc.

8. This estimate as well as all other estimates from the census are subject to two main problems: the omission of persons with trade and higher qualifications and the difficulties posed by the occupational classification in the identification of trade jobs. If a correction were possible for these two problems, they would tend to lower the ratios indicated in the table.

9. The proportion in trade derived from the NTC survey is within 5 to 10 percentage points of that derived from the ABS surveys.

10. Analysis by the BLMR provides an estimate of the wastage rate from the pool of tradespersons, i.e. apprenticeship completers and overseas migrants. The calculations suggest a wastage rate over a long term of 3 to 4 per cent p.a. The wastage rate, r, is calculated from $P_n = P_o(1 - r)^n$, where P_n = proportion still in trade n years after completion of apprenticeship, and therefore $P_o = 1.0$.

11. The evidence on the clothing and printing trade, on the other hand, would seem to suggest a strong cyclical influence. The proportion in trade among those qualified in the clothing trade is much lower than for any other trade while in the printing trade it is the highest. The downturn in the clothing industry is undoubtedly a major factor in the first case as is the relative stability of the printing industry in the second.

12. Analysis by the BLMR indictes that nine occupation groups are required to account for 90 per cent of tradespersons compared with only three for degree and diploma graduates and five for technician certificate graduates.

13. The percentage using trade skills but not working as a tradesperson varies significantly between the sources; but the variation is reduced when working as a tradesperson and working in trade related job are summed. Not using trade skills is the difference between total and this sum.

14. The higher figure is for those who had completed exactly 11 years prior to the survey, while the lower figure is for those completing within the last ten years.

15. Analysis of 1976 census on earnings of 25-34 year old male metal trade qualified persons indicates that 17.5 per cent were earning less on average in some occupations than in metal trade occupations, especially in the semi-skilled and unskilled occupations (as well as farmers and transport workers). On the other hand, the variance of earning was higher in some of these occupations, particularly the non-manual. This would suggest that some regressions have resulted from push rather than pull factors. The important push factors are loss of job and technological obsolescence. Both would affect older workers more, and this is suggested by the fact that only 4.7 per cent of 15-19 year olds were in semi-trade occupations compared with 9.0 per cent of the 55-64 year olds (1976 census).

16. The major *net* movements after the first ten years seem to be into self employment (other than as a tradesperson), to out of trade, or trade related occupations, and out of the workforce. In the first ten years, however, the ICTC survey indicates that the large movement out of trade is mainly compensated for by movement into foreman, technician and trade-based and non-trade based self employment.

17. Broom et al. (1980), on the the other hand, found that outflow mobility was mostly regression in the first 10 years. Indeed, 3 of the 4 mobility paths were to lower skill levels. Some of these regressions were apprentices who failed to complete and went into semi-skilled work. (This group is not covered by this present study.) The main route of advance was into small businesses. Of the 30 men shown as moving into managerial positions in mid-career, 12 were owner managers, mostly in firms with few employees.

18. Technician training provisions and skill requirements within industry in Queensland could be responsible for the relatively minor movement to technician positions noted in the Queensland ICTC survey. Unfortunately there is little evidence from other States to compare with. In general, it is not possible to obtain data on the percentage of those pursuing a certificate or technician course who had completed trade training. The study for the NSW Department of TAFE on retention of tradespeople in their trade indicated in the draft report on the electrical fitting

trade that about 20 per cent of all respondents (persons who had completed trade training) had studied for subjects of the certificate course in electrical engineering. As the sample was biased towards the more recent graduates, this figure may be expected to understate on the percentage who eventually study for certificate subjects. On the other hand, it is to be noted that technician positions and technician training is much more common in the electrical trade than in any other trade.

The census is not helpful in sorting out the size of the movement to technician qualifications from trade qualifications. The census records only highest qualifications, and therefore trade qualified persons with technician qualifications are recorded as possessing only the latter. Consequently data on trade qualified persons working as technicians would understate the number of technicians with trade qualifications. Finally, surveys which record only the current occupation of trade qualified persons may miss the movement to technician positions if this is an intermediate movement on the way to a managerial position. A more complete job history would help to clarify the career movements.

19. This is based on unpublished BLMR analysis, which also shows that unqualified tradespersons have a lower propensity to be self-employed.

20. The ICTC study covered the main trade groups. BLMR analysis of census data indicates that the omitted trade groups have a lower propensity to be self-employed and therefore the NTC and aggregate census data are expected to yield estimates lower than the ICTC study.

21. Some further evidence of the extent of post-trade training is provided by NSW Department of TAFE statistics on enrolments in courses for post-trade qualifications. These show that at the end of December 1981, 8,888 persons were studying for a post-trade course, 60 per cent of whom were aged between 19 and 25. This compares with about 47,000 apprentices in training at the end of June 1981. Stationary stock-flow analysis suggests the post-trade courses (typically two years long) have an annual inflow of about 4,500 while trade completions are approximately 12,000 annually. These estimates in turn suggest that about 35 to 40 per cent of graduates undertake post-trade courses.

22. The survey only identified 'employed trade qualified persons who use some skills in current job'. It is assumed that managerial/supervisory positions require some trade skills.

23. One plausible reason why some persons who, having lost their trade job, are not currently using trade skills may be due to the fact that they have been 'turned off' as a result of their experience in trade, and particularly the precariousness of trade work in the labour market. This would be consistent with the evidence on the importance of job security as a reason for leaving trade work. The original loss of trade may, of course, be due to technological obsolescence or loss of productivity, which would affect older workers more. See Endnote 15 for further evidence.

24. In the ICTC study, persons who were self-employed, including in trade, were treated as having left the trade, so that 'opportunity to start own business' is an important reason for leaving the trade. This unfortunately deflates the relative importance of all other categories of reasons.

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APPENDIX A

SOURCES OF DATA

This appendix tabulates and discusses the available sources of information on career paths of tradespersons. Some sources are actual studies on career paths of tradesmen, while others provide this kind of information but not as the main aim of the study. As a result, some sources are generally more informative than others and it is useful to separate the sources into three groups: primary, secondary and other sources. The primary sources are major sources of information on career paths while secondary sources are those which illuminate some aspect of the topic. Sources of only peripheral importance are included under other sources.

1. **Primary Sources**

Name of Source	Coverage			Sample Size (completed Responses)	Year of Survey	Publication of Results
	Cohort	Trades	Region			
ABS (1983)	All ages	All tradespersons who completed an apprenticeship or were recognised by TRRA	Australia	Approx 4000 civilians, aged 15 and over	September to November 1982	ABS (1983)
ICTC (1983)	1970/71 1975/76 1978/79	Metal, electrical building and vehicle trades	Queensland	All persons (1744) who completed an apprenticeship in mentioned trades in Qld in 1975/76 and 10% for the other two cohorts (i.e. 176 and 352 responses respectively)	1981	Queensland Industry and Commerce Training Commissions (1983)
NTC (1983)	Part I Cohorts from 1950 onwards	Part I All trades	Part I Aust.	Part I 762 persons aged 18 and over	1981	National Training Council (1983)
	Part II Cohort of 1970/71	Part II Metal electrical, motor, building	Part II Vic. NSW, WA.	Part II 418 persons		
Hocking and Burns (1980)	1953/54 1958/59 1963/64 1968/69	Carpentry and joinery, fitting and turning	Tasmania	109	1980	Hocking and (1980)

Name of Source	Coverage			Sample Size (completed Responses)	Year of Survey	Publication of Results
	Cohort	Trades	Region			
NSW TAFE (1980)	Group I Students completing during 1971-1980	Fitting and turning	NSW	Group I 82	1977	NSW Department of TAFE (1980)
	Group 2 students in Stage III in 1977			Group 2 1400		

2. **Secondary Sources**

Name of Source	Coverage Cohort	Trades	Region	Sample Size (Completed Responses)	Year of Survey	Publication of Results
Census	All ages	All trades	Australia	Entire population	1971, 1976 1981	ABS Census of Housing and Population. Matrix tapes provide the raw data. Studies which have used this data include Schaerer (1981) Tertiary Education Commission (1981), and unpubld. analysis by BLMR
ACER (1983)	Individuals who were 14 in 1975	All trades	Australia	About 400 to 500 with apprenticeship training	1979 to 1981	Williams, T et al (1983)
Blandy and Richardson (1982)	Individuals who were in Years 10, 11 and 12 in 1971	All trades	S.A.	unknown	1981	Blandy and Richardson (1982)
Williams (1979)	All ages	Grouped into skilled blue collar categories metal and electrical, building and other.	Australia	Approx 4000-5000 tradespeople	1972 and 1975	Williams (1979) and Williams (1980)
ANU Mobility Survey (1973)	All ages	All trades	Australia	Approx 400-500 tradespeople	1973	Broom, L. et al (1980)

3. Other Sources

Name of Source	Coverage			Sample Size (completed Responses)	Year of Survey	Publication of Results
	Cohort	Trades	Region			
Melbourne Uni. Career Development Project	Year 12 Students in 1973	All trades	Australia	120 in 1982	1982	Melbourne Uni. (1982)
Corrigan (1981)	Several years	Metal	Hunter Region of NSW	37	1981	Corrigan (1981)
ACT Office of Further Education	1979 graduates	Automotive Engineering	ACT	less than 100	1979	ACT Office Further Education (1979)

CURRICULUM DEVELOPMENT IN TAFE TRADE COURSES

BY DAVID LAIRD

INTRODUCTION

This review presents a survey of curriculum development as it is practised on trade courses in the TAFE sector of the educational system. Its conclusions are based on data drawn from reported research into and discussion of such curriculum development conducted both within States/Territories and on a national basis.

Curriculum development practice in trade courses has been evolving towards a highly systematic and standardised procedure, gradually in the case of New South Wales (Haworth, 1980, pp. 13-14) but apparently more single-mindedly in Victoria in recent times (Braddy, 1981; Findlow, MacKenzie & Peters, 1981; King, Litherland & MacKenzie, 1981). This trend has been confirmed by the findings of the national study of TAFE curriculum development processes and still further standardisation has been urged (Broderick, 1982, p. 20, and 817). Such a development is not surprising given the widespread agreement, among those involved, about the highly specific focus of trade courses. Their primary concern is with the promotion in the learner of vocationally relevant skills and cognitive learning (see for instance Broderick, 1982, p. xvi and 23; Schilling, 1978, p.i; Svirskis, 1980, p. 3), both of which are essentially training or instructional tasks and so are readily amenable to teaching in a behavioural objectives curriculum model (Stenhouse, 1975, pp. 80-81).[1] It is towards the achievement of such relatively unambiguous ends that system approaches to curriculum development are most readily applicable (Schilling, 1978, p. 1). Consequently, it is important to review briefly some of the key features of that approach.

FRAMEWORK FOR ANALYSIS

In general, a system may be defined as a set of elements which interrelate with each other and which are co-ordinated towards the accomplishment of a set of goals (von Bertalanffy, 1969; Churchman, 1968; Griffiths, 1964). Further, a system may be thought of as a conversion process transforming inputs into selected outputs, careful attention always being paid by its administrators to the acceptability of those outputs to the system's environment. It is axiomatic that a system should be responsive to the level of support it receives from its environment: the continuation of inputs, and therefore the system's survival, depend upon it.

In practice the system approach to studying any phenomenon, such as curriculum development, provides the student with a broad, 'all-inclusive' perspective of the variables involved. Indeed, this is its strength in that as it constantly reminds its users (be they researchers or practitioners) of the breadth of interrelated elements that collectively affect the curriculum's operation, thereby reducing the likelihood of a dysfunctionally narrow focus of attention. Of course, whether or not all relevant factors are confronted depends entirely upon the user's awareness of and willingness to include them in the analysis. It should be noted that this paper does not attempt to specify in fine detail the intricacies of curriculum development in trade courses but seeks rather to present a critical commentary at the broader level. This approach has been taken in view of Broderick's recently published and highly detailed report on the subject.

This system model (Figure 1), is used to structure the following analysis of curriculum development in TAFE trade courses. Since the curriculum development system exists primarily to service the needs of more than one interest group (such as employers and governments) and of individuals within its environment, it is necessary to note briefly some of the main forces from that source which influence the system.

ENVIRONMENTAL INFLUENCES

Consideration of the context within which curriculum development is carried out reminds the observer that it is more than just a response to educational needs, in that it is facilitated or constrained by powerful non-educational considerations such as politics, industrial relations and TAFE resources (National Working Party on Metal Trades, 1980). Indeed, it is the task of governments to assess periodically such factors and subsequently to meld thei- priorities into policies. Not uncommonly, ad hoc committees of inquiry are established to assist government in this task. The report of one such committee, the Kangan Report (1975), established the philosophical framework that remains fundamental to curriculum policy in the 1980s, including trade education.

The Kangan Report stated that 'general education and vocational education should not be artificially separated'; rather, an integrated approach was necessary in the interests of improving individuals' levels of personal development and their subsequent flexibility in continuing vocational development (Kangan, 1975, pp. 7-9). Recurrent vocational education was identified as the 'best hope' for the community in coping with changes in job specifications, but only if considerable effort was made in ensuring its 'relevance and modernity' (Kangan, pp. 10, 36). To that end, curriculum developers were urged to draw upon the 'theoretical knowledge and practical experience' of those in industry, commerce and community services when developing courses (Kangan, p. 10-11). Further, it was suggested that there would be 'advantages in consistency of curricula in all States in major courses' and that concerted efforts should be made to that end (Kangan, p. 11). Regular and frequent course reviews also were urged. Viewed broadly, these recommendations are clearly being heeded in current curriculum development policy and practice.

Beyond the issue of curricular emphasis and content, the Kangan Report also made several observations and recommendations about the implementation of its philosphy. Foremost was the identification of the teaching force as the key agency through which 'effective widespread impact' of Kangan philosophy could be achieved, but only if teachers' enthusiasm could be captured by improved initial and in-service training opportunities (Kangan, p. 41). Such identification of the central role of the teacher in curriculum implementation has been reinforced recently by a literature review on the topic (Kennedy, 1984, p. 21). A second major recommendation was for a greatly increased effort to incorporate 'new learning technology' in the teaching strategies adopted (Kangan, p. 38). More specifically, strong concern was expressed that increased opportunities be made available for students to vary the pace and time of day at which they learned by improving the provision of 'self learning aids, resources such as libraries, correspondence lessons, audio and visual presentations' (Kangan, p. 37).

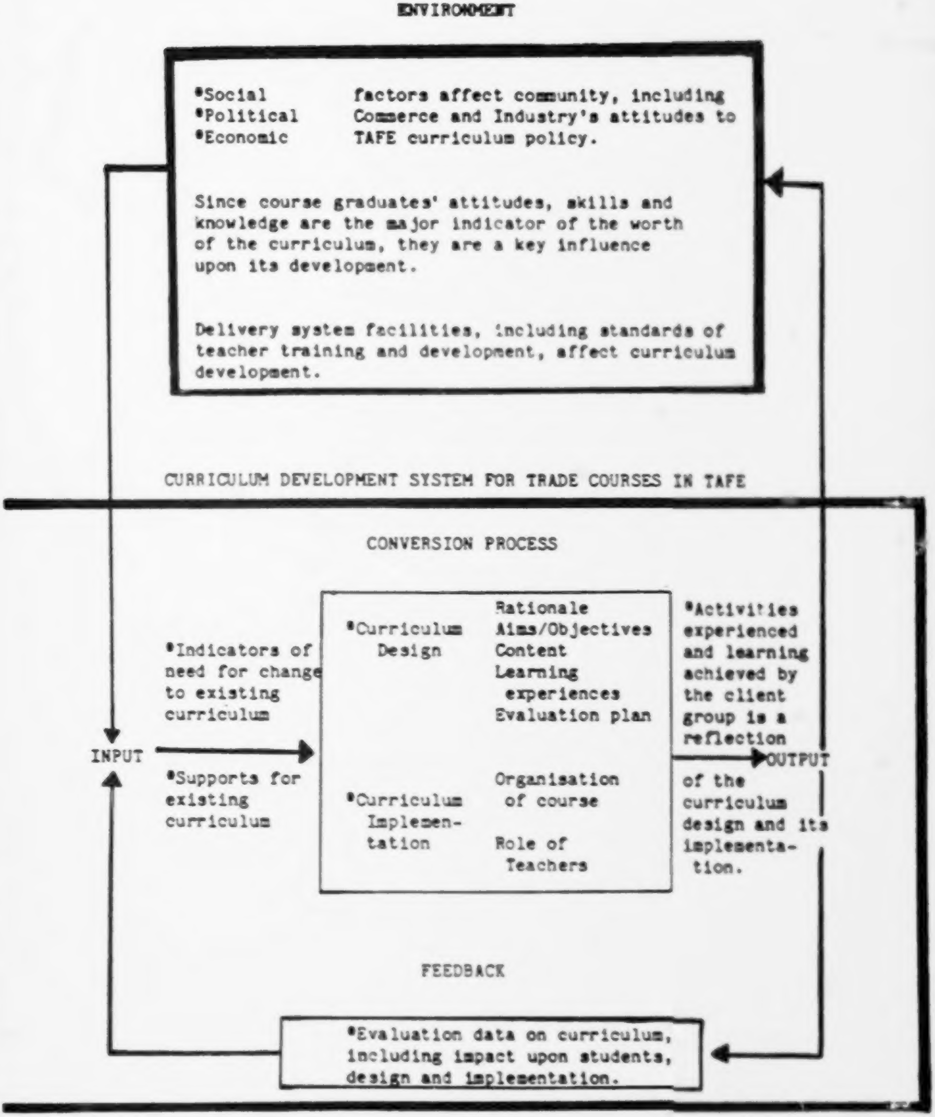
ENVIRONMENT
•Social
•Political
•Economic
factors affect community, including Commerce and Industry's attitudes to TAFE curriculum policy.
Since course graduates' attitudes, skills and knowledge are the major indicator of the worth of the curriculum, they are a key influence upon its development.
Delivery system facilities, including standards of teacher training and development, affect curriculum development.
CURRICULUM DEVELOPMENT SYSTEM FOR TRADE COURSES IN TAFE
CONVERSION PROCESS
•Indicators of need for change to existing curriculum
INPUT
•Supports for existing curriculum
•Curriculum Design
Rationale
Aims/Objectives
Content
Learning experiences
Evaluation plan
•Curriculum Implementation
Organisation of course
Role of Teachers
•Activities experienced and learning achieved by the client group is a reflection
OUTPUT
of the curriculum design and its implementation.
FEEDBACK
•Evaluation data on curriculum, including impact upon students, design and implementation.

Figure 1. A system model of curriculum development

While progress has undoubtedly been made since 1975 towards the realisation of the Kangan Report's recommendations, by 1979 it was evident that much remained to be done in, among other areas, staff preparation and development (Williams, 1979, p. 331). More generally, by 1982 Broderick was convinced that the 'philosophical concepts contained in the Kangan blueprint for TAFE . . . (had) . . . not been applied as . . . recommended' (Broderick, 1982, p. 26). He pointed to the adversely altered economic climate in 1979, compared with that of 1974, as being a major contributory cause of such a disappointing situation (p. 25).

In addition to the impact upon curriculum development of factors such as broad governmental policy and economic climate, other more specific environmental influences also are significant. For example, there exists a feedback loop (Figure 1) by which environmental responses to system outputs are channeled into one of two main categories of input to system administrators, either demand for change or support for the status quo. For example, Soo (1980) noted that a major source of stimulus for the trade course under review came from employers who sought a re-structuring of the course. In some trades, licensing authorities external to TAFE also monitor the standards of graduates and therefore of their training courses (Svirskis, 1980, p. 7). However, such environmental feedback sources are usually complemented by a within-system feedback loop (Figure 1). Typically, these latter influences may include College administrators, lecturers, special advisory committees established to monitor the standards of graduates, and analyses of past students' opinions and pass rates (Brady, 1978; Broderick, 1982, p. 806; Schilling, 1978; Svirskis, 1980). In all TAFE Authorities formal policies, which specify procedures for regular course review, either exist or are being finalised (Broderick, p. 20; Svirskis, p. 3). By such means, the curriculum development system for trade courses is alerted to the need for action, both from its environment and from within.

Beyond the feedback loop just mentioned, the trade course curriculum development system also contains input, conversion process and output elements. Each of these now will be examined in turn by drawing upon selected, published literature.

THE CURRICULUM DEVELOPMENT SYSTEM

Out of the analysis which follows, a significant characteristic (in the writer's view) of curriculum development in trade courses in TAFE will emerge, viz. that the bulk of such literature relates to the inputs and design components of the system model, and that a relatively small amount addresses the implementation component and outputs of the system. Such an apparent preoccupation by TAFE Authorities with the input and design components of the system is corroborated by the findings of the recent national study of curriculum development processes. Of the thirteen 'common core' processes agreed to by the project's steering committee as being representative of practice nationally, only one, that of 'quality control', appears to extend beyond syllabus design (Broderick, 1982, pp. 13-19), that is, beyond the 'curriculum design' component of the conversion process within the system model.

Inputs

As noted already, the motivation for curriculum development in TAFE trade courses is partly institutionalised in formal policies specifying periodic reviews, but it may stem also from the efforts of individuals or groups to seek changes in response to a perceived educational/training need. The inputs component of the system model of curriculum development represents the processes and their resultant products that lead to the presentation of relevant data to the appropriate decision-makers, upon which a decision will be taken to proceed or not with a review.

Typically, system inputs comprise a submission which summarises the first three of Broderick's 'common core' processes, viz. recognition of claims that an educational/training need exists, a subsequent investigation of that need aimed at defining precisely its nature and finally, an assessment of the degree of demand by prospective students for the course involved (Broderick, 1982, pp. 13-19). In essence, the input component of the system model can be regarded as a form of situational analysis[2] of the curriculum in action, with particular attention being focused on the alleged area of need. Practice varies among States/Territories and even from case to case within each; however, a generalised account of the process usually involved is given below.

The investigations of vocational education needs and demand usually are carried out concurrently, under the management of some form of advisory committee which may or may not be representative of teachers, industry and TAFE curriculum officers. A wide range of data sources may be drawn upon, including literature reviews of practice reported from interstate and overseas (Broderick, 1982, p. 805; Findlow et al., 1981), industrial visits and personal interviews (Schilling, 1978; Soo, 1980), student opinion (Brady, 1978) and TAFE college attendance records (Soo, 1980). These data may provide insights into various dimensions of the needs/demand issue such as future trends and developments in the trade, including employment patterns, and opinion about the respective responsibility of TAFE and Industry for the teaching of knowledge and skills. But the most common approach to investigating vocational educational needs is the conducting of structured industrial or occupational surveys (Broderick, 1982, pp. 805-807). Such surveys, which gather data primarily about tradespersons' major duties and tasks, provide the essential data by which subsequently developed trade course curricula are kept relevant to and integrated with industry's labour force needs (Schilling, 1978). A good example of the rigorous approach taken to this task is that described by King et al. (1981) in which the questionnaire was developed, then validated and trialled before finally being administered to a sample of tradespersons and the results analysed. The data yielded typically provide descriptions of the job profiles of duties and tasks of the tradespersons, the personal skills required to perform the job, the tools handled, and the environmental conditions under which they work (King et al., 1981; Walsh, 1980).

It is worthy of note that tried and proven though it may be, the survey approach to providing a datum base upon which to judge the need for, and if appropriate carry out, subsequent curriculum development, is not without its disadvantages. In essence these are the relatively high costs of the exercise, in terms of both time and resources, which result in an inadequate rate of review of courses. Consequently, there is a tendency to search for alternatives that can be administered easily while still yielding acceptably accurate data. At the time of writing, a research project sponsored by the TAFE National Centre for Research and Development is currently in progress for the purpose of identifying 'which methods are most applicable to the circumstances and needs of curriculum developers in Australian TAFE' (TAFE National Centre for Research and Development, 1983b, p. 93). In their recent progress report, the researchers list some seven approaches including the DACUM (Developing a

Curriculum) method, the Search Conference, the Delphi Technique, Force Field Analysis and the Nominal Group Technique as well as examining techniques for combining approaches to the task (Anderson & Jones, 1983).

'Approval in principle' for curriculum development to proceed beyond the recognition of need and the subsequent investigation of both need and demand, is common to all TAFE Authorities in some form or other, though the level at which that approval is given varies with the kind of course and the particular Authority concerned. Generally, related documentation is simple, involving a brief background statement, a course structure and target group identification, and is prepared by the executive officer of the program/syllabus sub-group (Broderick, 1982, p. 806). In all TAFE Authorities the decision to grant approval in principle for a project to proceed is influenced by the strength of client group pressure favouring it. If the decision taken is to proceed with curriculum development, the data gathered during the investigative stage become input to that process (Broderick, 1982, p. 810; Fox et al., 1979; Schilling, 1978, p. 1; Svirskis, 1980, p. 18).

The conversion process

Once approval for course development is obtained, a syllabus committee of the relevant study area/program/advisory committee (which may be standing or ad hoc) is appointed and has considerable freedom in developing the course syllabus (Broderick, 1982, p. 809). In at least some cases, an effort is made to ensure overlap between the group which carried out the investigation of need and demand and the syllabus committee so that use of the research data already gathered is facilitated (Svirskis, 1980, p. 17). The common pattern across TAFE Authorities having specialised curriculum branches/sections is for the executive officer to be appointed from among their ranks. This pattern appears to be policy in the most centralised States (New South Wales, Queensland and Western Australia), is varied slightly in others (Tasmania, the Territories and Victoria) and departed from most frequently in South Australia where the chairperson is elected and most often is a college-based subject expert (Broderick, 1982, pp. 808-809). As teaching staff provide the subject expertise for curriculum development, the capacity of the college system to release staff for such duties is a constant constraint upon the overall process (Svirskis, 1980, p. 5).

With respect to the process of curriculum development, no single prescriptive model is in use nationally. But while individual research officers are free to, and do, vary the details of models used, a basic model of the means-ends type is the usual starting point. Such an approach to curriculum design has a history of success in the context of vocational course development (Lambert, 1980, p. 20; Svirskis, 1980, pp. 8-9).

Curriculum design

In essence, a means-ends model of curriculum design assumes that clear educational ends, or objectives, of a course can be pre-specified and that in the light of such information appropriate means to achieving those objectives can then be chosen (Lambert, 1980, p. 20). In the context of trade course design, where the objectives traditionally have described basic knowledge and skills relevant to a trade, such a rationale readily applies (Svirskis, 1980, p. 8). However, caution should be exercised before attempting to apply such an approach to the design of courses in other TAFEC streams where precise pre-specifications of outcomes might be neither possible nor desirable, such as in Stream VI (Svirskis, 1980, p. 8). And even within trade courses it is now being argued by some that such a narrow focus of attention and effort is inappropriate (Stevenson, 1982, pp. 13-24).

The means-ends model of curriculum design seems to have been taken up by some TAFE Authorities in a 'ruthlessly objective' form (Lambert, 1980, p. 20) under the banner of the Instructional Systems Model (Table 1).[3] In this latter model the focus is on, primarily, learning behaviour both during and after instruction, an approach which is sympathetic to the extreme view of how behavioural objectives should be used in education (cf. Mager, 1975). As Braddy (1981, p. 28) stated, 'learning takes place by doing. Before the learning can become complete we must put into practice what we are attempting to learn . . . '. He went on to defend the approach against accusations of a narrow focus on vocational skills by pointing to the model's insistence that consideration be given to all the dimensions of curriculum design, including classroom organisation, teaching technique, learning process, assessment, evaluation and validation (Braddy, 1981, p. 30). While examination of the model (Table 1) reveals a preoccupation with overt behaviour, with the attendant risk that cognitive processes not readily manifest unambiguously by overt behaviour may be overlooked, it does seem a strength that curriculum design extends beyond syllabus design into the areas of implementation and feedback.

TABLE 1: THE INSTRUCTIONAL SYSTEMS MODEL

PHASE	PROCESS
1. ANALYSIS	a) Analyse the job (From the job incumbent ascertain the duties and tasks performed)
	b) Identify the training requirement (Identify from the total task list those skills which are appropriate for training)
	c) Formulate training objectives (Translate the training requirement into training objectives)
	d) Prepare training objective tests (Construct tests for each training objective which clearly specifies the standards to be achieved by each trainee)
2. DESIGN	a) Derive enabling objectives (Develop subsidiary knowledge and skills to achieve the training objectives)
	b) Develop learning units (Specify teaching processes and media to be used to achieve the enabling objectives)
	c) Select instructional strategies
	d) Produce learning resources
3. CONDUCT	Teach the course (The success of any course is dependent upon the quality of instruction)
4. EVALUATION	Review college performance (Ascertain the compatibility of college facilities, instructors)
5. VALIDATION	Feedback from the job (Formally obtain feedback from graduates relating to the quality and relevance of the training they have received).

Sources: Braddy (1981, p. 29); **Lambert** (1980, Appendix A).

Curriculum implementation

Support for such an holistic approach to curriculum development, which integrates curriculum design with plans for its implementation and subsequent evaluation, was given by Broderick in his study. He recommended that all TAFE Authorities should develop procedural policies to ensure that design and implementation personnel plan co-operatively from the outset of the curriculum development process. Such policies should establish procedures for arranging relevant staff development in which curriculum designers and implementers communicate, for ensuring adequate human and material resources are available to develop and implement courses, and finally, for conducting course evaluations, student assessments and the maintenance of course standards (Broderick, 1982, p. 816). Clearly, Broderick's study revealed that, nationally, TAFE Authorities had not been employing such a system-wide approach. As noted earlier and pursued below, the preponderance of relevant literature reviewed for this paper focuses mainly on the inputs and curriculum design elements of the broader model (Figure 1), a fact that is consistent with Broderick's findings and his recommendation that a further study be undertaken, on a national basis, into the implementation of TAFE curricula (Broderick, 1982, p. 818). It is pleasing to note that some research on this issue is already under way (TAFE National Centre for Research and Development, 1983 (a); Kennedy, et al., 1983).

Broderick gives further recognition to the capacity of the Instructional Systems Model to foster such an holistic approach to curriculum development by acknowledging its impact upon implementation, particularly in Victoria. As a consequence of its implications of a specific teaching role, Victoria is the only State where teacher guidance is refined beyond guidelines. However it also has influenced practice interstate (Brady, 1978, pp. 37-41; Lambert, 1980, p. 41) as the trend towards modular or unitised curriculum organisation shows (Broderick, 1982, pp. 810-811). What is not clear is the extent generally of that influence, or of any other influence, on the traditional role of the teacher as the disseminator of information. If Haworth's assessment of practice in New South Wales is any guide, then a shift towards a more student-centred teaching strategy, which places more emphasis on learning theory than previously, might be discernible (Haworth, 1980, pp. 3-4, 15). Lambert's (1980) report of research into several teaching strategies is an encouraging sign, as is O'Donnell's (1978) development of guidelines on the use of modular curriculum design.

It is a further strength of the Instructional Systems Model that it gives clear recognition to the fact that the impact of any course, no matter how well designed, is largely determined by how well it is implemented. It is for this reason that many of the reports reviewed for this paper urge increased attention upon staff development, though with quite different ends in mind. Thus some regard it as the means of ensuring that the planned curriculum is implemented precisely as intended (Fox et al., 1979; Schilling, 1978, pp. 77-78), where others believe that a more professionally autonomous role for the teacher must be aimed at (Lambert, 1980, p. 21). The extent to which one or the other of these perspectives accurately describes either the current role of TAFE teachers, or their desirable future role, will be judged better as more research data come to hand. But regardless of that decision, there is general agreement on the need for more staff development activities focused on curriculum design and implementation.

Outputs

The power to approve courses varies among States/Territories and may include one or more of the Director/Director-General (of Education, Further Education, TAFE), the Minister, an Apprenticeship Authority, and a Statutory Post-Secondary Board. However, wherever such powers are held beyond the Director or Director-General's office, it is usual for them to be delegated to some extent to that office (Broderick, 1982, p. 811). But whatever the mechanism, this phase of the total process is the first at which a new/revised syllabus is subject to scrutiny by interest groups within the system's environment. It thus constitutes a preliminary feedback loop to curriculum developers (Figure 1) about the acceptability of their product. These interest groups include apprenticeship authorities, employer and employee bodies (Broderick, p. 812).

The most visible product of the curriculum policy-making system is the course syllabus, this usually being the document that is submitted to endorsing bodies for final approval. However, fuller curriculum documentation is sometimes included, in which case such implementation related plans as the implications of relevant educational technology, staff development needs specific to the course, and textbook lists may also be submitted (Broderick, p. 812).

i. General characteristics

Turning to the nature of TAFE trade course curricula, ideally, certain distinguishing characteristics may be identified (Broderick, 1982, p. 12). Thus, the focus of these curricula is sharply upon raising the level of students' occupational skills performance, related knowledge and attitudes. In addition, their aim is to integrate the college educational experience with students' industrial training and experience so that the two complement each other as much as possible (Soo, 1982, p. 22). To this end, the syllabus objectives are drawn from an assessment of needs which encompasses the individual, industry and the community (Hermann, et al., 1976, pp. 183-187) and may contain up to five different components (TAFE National Centre, 1983(c), p. 28):

* general education - aimed at promoting in the student an appreciation of the contribution to society made by tradespersons and of their obligations as responsible citizens (TAFE National Centre, 1983(c), p. 15);

* theoretical base - upon which is built the students' knowledge of and skill in the practice of the trade;

* planned practical component - which provides experience of the relationship between theory and practice;

* skills development - either in a real or simulated work situation (Pulsford, 1983, pp. 32-36) which is aimed not only at developing students' basic trade skills but also at developing them further in an attempt to facilitate their rapid adaptation to "new methods of work, materials and processes" (NSW Department of TAFE, 1981, p. 4);

* general industrial experience - which provides the student with an overview of the "context" and "circumstances" of trade life (Pulsford, 1983, pp. 34, 36).

In the final analysis the nature of the course graduate provides the ultimate test of the efficacy of the course. And on this issue Broderick reports that graduates are adaptable and readily able to transfer to other occupations because their course has focused on skills and knowledge rather than particular industrial skills (Broderick, 1982, p. 12).

In addition to the mainsteam trade courses referred to above, two closely related categories of courses are worthy of special note. These are the pre-employment courses and the National Core Curricula.

ii. Pre-employment courses in trade training

One type of pre-employment course offered by TAFE takes the form of introductory trade courses designed for students who have not yet secured apprenticeships (Cohen, 1983). Such courses are studied full-time and because they are scheduled differently from normal apprenticeship courses, may lead to accelerated progress through an apprenticeship once the student obtains one. In principle, this is achieved by presenting, for example, in one year what would normally be studied by an apprentice in two years (Hutchison, 1978, p. 12; Methods Section, Qld. TAFE, 1979, pp. 11, 14). Consequently, successful students of such courses are much more attractive to employers because they already have developed knowledge and skills which make them immediately useful when they take up work (Birkin & Daniels, 1981, p. 24). A further incentive to employers to offer such students an apprenticeship is the fact that the cost of their training is shared more equitably between employer and Government than is the case with the conventional apprenticeship scheme (Methods Section, Qld TAFE, 1979, p. 11).

There are two main types of pre-employment courses currently in operation which, while sharing the above stated characteristics, also have distinctive features: they are pre-vocational (trades-based) courses and pre-apprenticeship courses (Pulsford, 1983, pp. 51-62); Hutchison 1978, pp. 1-8, 50-52). Thus the pre-vocational (trades-based) courses, following upon the Queensland model which was pioneered in 1977 and subsequently adapted for use in Victoria, Tasmania and South Australia, introduce students to a wide variety of trades so that they may choose more wisely what finally to specialise in. The syllabus for such studies draws directly upon the 'theoretical base' and 'planned practical component' of the separate trade courses covered. But what is of most interest about the pre-vocational model, in the context of this paper, is 'Skills for Living', aimed at complementing the students' development of technical skills with social and cultural skills (Hutchison, 1978, p. 7). This is a significant development in trade education because of its focus upon the 'total person' rather than the traditionally narrower focus upon only the vocational development of the student. It is this latter emphasis that pre-apprenticeship courses reflect, their notable feature being their well structured 'set of experiences' designed to substitute for the 'skills development' and 'general industrial experience' that apprentices normally acquire in their workplace (Pulsford, 1983, p. 62).

However, taken collectively, pre-employment courses still display a high degree of correlation between their content and organisation, and that of the normal trade courses. At present that too is the status of most National Core Curriculum syllabi.

iii. National Core Curricula

A National Core Curriculum (NCC) is 'a TAFE course provided for a single study area or occupational area, where a core of knowledge, skills and curriculum pratices has been agreed upon by TAFE Authorities as being common to the programs conducted by each TAFE Authority' (Jones, 1983c, p. 12). As implied by this definition, an NCC syllabus does not prescribe fully the curriculum for any course, it being up to each Authority to add to the core as local needs dictate. The rationale underpinning the NCC initiative is at least partly an economic one in that a co-operative approach nationally to syllabus and materials development is assumed to have the capacity to make available better quality products in a relatively cost efficient manner. This assumption has been vindicated already to some extent through the success of the Electrical, and Carpentry and Joinery NCC projects. As a minimum, NCC documentation comprises a syllabus document, which specifies national core aims, course structure, its contents and/or objectives. Possible additions to this syllabus include teaching methodologies, resources and assessment practices. Currently a range of syllabus formats is in use (Jones, 1983(b), Appendices F, H, J, K, L, N, P, Q) and Jones has speculated on the desirability of a standardised format in the interest of minimising ambiguity in communication about the core (Jones, 1983(c), p. 29).

In Jones' opinion, most NCC syllabuses have been produced by blending existing individual TAFE Authority syllabuses in order to preserve all elements common to the majority (Jones, 1983c, pp. 24-25). While Jones regarded this 'reductive' approach to the task as not being the preferred one, he did acknowledge that constraints upon the time available for the exercise, the extent of resources available to support it and the relatively low priority given to it by some State/Territory Authorities almost certainly has made any alternative untenable in the short term at least. However, Jones was able to point to some instances of his preferred 'generative' approach to syllabus development in which a separate, national needs analysis formed the basis of the new syllabus (Jones, 1983c, pp. 24-26). Perhaps this latter approach will become more common as the benefits of the NCC are demonstrated and support for the concept grows.

The extent to which any trade course meets the vocational needs of its clients, and therefore the expectations of its system administrators, can be assessed only by the gathering of appropriate information which is then fed back to those administrators. As noted already, all open systems have one external channel, through their environment (Figure 1), by which such data are transmitted. But all systems also have an internal channel, or feedback loop, which provides evaluation data. It is that latter system component which now is considered.

Feedback

Feedback data are generated at different levels of analysis in large organisations such as TAFE. For instance, at the system-wide level of policy making, major reviews of current practice are commissioned from time to time, recent examples being Broderick's (1982) review of curriculum development processes and Jones' (1983a, 1983b, 1983c) reports on the development and implementation of national core curricula. This kind of feedback has the capacity to shape curriculum development policy generally, with more specific impact filtering through to the levels of particular courses. For example, both Broderick and Jones have drawn the attention of policy-makers to the inadequacy of knowledge about and attention to the implementation of TAFE syllabuses. Recently a research project on this topic has been commissioned by the TAFE National Centre for Research and Development (Kennedy, et al., 1983; TAFE National Centre for Research and Development, 1983a). It seems probable that other projects will follow with ultimately useful findings emerging to guide curriculum design and implementation.

At this lower system level, where the design and implementation of particular trade courses takes place, already there is a well established feedback mechanism in operation, in the form of the curriculum review procedure which has been described above. As noted there, it is this within-system, rather than environmental, feedback mechanism which largely is responsible for the input of data to guide the design of new or revised syllabuses. Ideally, by this means data relative to both curriculum design and implementation ought to be gathered, though here again the relative neglect of the implementation dimension can also be discerned.

A further deficiency in the feedback data gathered by course reviews is implied in the recommendation of Birkin and Daniel (1981, p. 24) that future trade course curriculum reviews incorporate a section that assesses the associated pre-apprenticeship course. Such action might minimise the need for specific studies, such as those of Khan (1982), Putt (1982), and Smith (1983).

The generation of feedback data completes the input-process-output-feedback cycle of the system model. In applications where periodic reviews are the practice, as in trade courses in TAFE, such data are absorbed into new inputs which form the basis for a new cycle of the whole process. The final section of this paper is given over to brief comments on two aspects of the curriculum development process in TAFE trade courses that seem to be undergoing, or need to undergo, closer scrutiny.

LOOKING AHEAD

The two issues that seem to the writer to be worthy of further discussion now are firstly, the upturn of interest in curriculum implementation and secondly, the exploration of possible implications of that development for the terminology that is used to communicate ideas about curriculum development.

Curriculum implementation

The general thrust of both Broderick's (1982, p. 818) and Jones' (1983(c), p. 28-30) recommendations that implementation strategies (including teaching practices and material resources) be planned concurrently with syllabus design, is consistent with the system approach to curriculum development, as it is described in the Victorian context (Braddy, 1981) or as used to structure this paper. The underlying concern is with directing the attentions of policy makers and policy implementers alike to the system as a whole in an effort to avoid one component, such as design, being highly developed while another, such as implementation, is largely overlooked. After all, no matter how educationally sound a curriculum design is, it will count for little if, at the classroom/workshop level, the necessary material resources, teacher dedication and expertise to translate that plan into practice are missing. Stated alternatively, the costs of mounting sophisticated need and demand analyses and translating these into curriculum designs are unlikely to be matched by subsequent benefits unless more attention is given than at present to the implementation phase. For this reason it is pleasing to note that research into the implementation of trade curricula has begun already. It is also encouraging to note, even before any results from such research are available, that some instances of successful co-operative resource production, in the context of national core curriculum development, are emerging. It seems imperative that this general assault upon the problem of improving curriculum implementation be sustained and strengthened.

Terminology

If this holistic approach to curriculum development does take root, an immediate consequence will be the need to re-examine the meanings ascribed to key terms used when communicating on the topic. What is needed is a set of terms that reflect the system perspective on curriculum development, including its implied focus on the ends of the process (student learning), as well as the means (syllabuses, material and human resources) of achieving it. To this end the recently published 'Draft Glossary of TAFE Terms' (TAFE National Centre, 1983) is a useful starting point but to which both additions and amendments seem warranted.

On the assumption that curriculum development (a term not defined in the Glossary) is the process of creating or revising a curriculum, the logical starting point is with the latter term. There the Glossary is explicit: A 'curriculum' is

> The total program of study in a course, involving objectives/content (the syllabus), learning activities, student assessment and specified resources.

However, there is the danger that such a definition might be interpreted as defining a curriculum to be essentially a blueprint for action which is discrete from the processes of both its implementation (another term not defined in the glossary) and evaluation. Consequently, the process of curriculum development then could not embrace these latter activities. This seems to be an unnecessarily restrictive set of meanings to adopt and is one that is inconsistent with the system approach to curriculum development.

Fundamental to the system approach is the notion that curriculum design (another term not defined in the glossary), implementation and evaluation are part of an integral whole which should never be considered piecemeal. Within such a frame of meanings, it is the curriculum design that constitutes the plan for action. The term 'curriculum' then can be given an alternative meaning, one that shifts the focus of attention away from the plan more towards its impact upon the learner. A curriculum then is defined in terms such as 'the activities experienced by a person following a . . . course or programme . . .' (Broderick 1982, p. xvii), or, 'all the learning which is planned and guided by the TAFE Authority whether it is carried out in groups or individually, inside or outside the TAFE college' (Jones, 1983(c), p. 3). What is valued most by those adopting such definitions is not the intention of a course (conveyed through its design), but rather its impact upon the learner when actually presented. Building on that notion of a curriculum, curriculum development should be defined as the process whereby a curriculum's design and/or its implementation process is initially worked out, or revised in response to demonstrated need.

The need for a clear and widely understood language with which TAFE curriculum theory and practice can be debated is underscored by the growth of the national core curriculum movement across Australia. But standardisation of terms should not be an a priori exercise, rather, it should follow upon close analysis of the field in question, care being taken to define terms in a way that reflects the values of the time. Of course, values appropriately change over time as new knowledge modifies theory and practice. The meanings assigned to terms should follow suit. If the impression gained during the preparation of this paper, viz. that an holistic approach to curriculum development is emerging, is accurate, then it is the set of values implicit in that approach to the task that should be reflected in how terms are used.

NOTES

1. There are at least two grounds on which to challenge the dominance of behavioural objectives in vocational education. One is the belief that such education should contain a component concerned with personal development of the student (Curriculum & Evaluation Section, 1978).

   Another basis of challenge is the concern for fostering in students greater adaptability in the face of change through the development of independent thinking (Stevenson, 1982).

2. This term is used in the sense defined by, for example, Soliman (1981) and Nicholls and Nicholls (1972). Although these writers refer specifically to the school context, the idea is readily applicable to the TAFE context.

3. This version of the model has been augmented by the addition of a NEED phase, prior to analysis, which focuses on identification and definition of need. It is further elaborated by the inclusion of a column which identifies the parties involved at each phase. For further details see Education Department of Victoria (1980).

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CURRICULUM EVALUATION IN TAFE

BY DAVID MITCHELL

INTRODUCTION

This review sets out to underscore the continuing and increasing need for curriculum evaluation in TAFE, while recognising the complexity of the problems, the size of the task, and hence the need to establish priorities. Several approaches known to the author are discussed to illustrate the nature of the task and the way it might be tackled. A model is suggested in an attempt to confer structure on the nature, purposes, and goals of evaluation, and to recognise and support requests that the elements of any evaluation study should be clearly delineated, understood, and communicated. A brief rationale is suggested for an emphasis on college-based evaluation of curriculum. Finally, some suggestions are made for further work in this area.

BACKGROUND: CONCEPTS AND ISSUES

The place of evaluation in curriculum as the process of gathering information, processing the information, making judgments that lead to decision making in curriculum, is sufficiently well established in both the theory and practice of curriculum not to require substantiation and elaboration here. This broad meaning will be assumed in this review. The concepts of formative and summative evaluation are equally familiar, although as Roe and McDonald (1983) point out, the distinction between the two is 'convenient but not always tidy' (p. 2). Stake (1976) argues that one reason for the distinction not being always clear is that in any course, there may be a number of components where evaluation is summative, whereas the overall evaluation is formative. For example, the evaluation may show that content in some areas is what is required and should stay, whereas other content may be irrelevant and should be discarded; or assessment strategies may prove to be inappropriate and should change. Again most of the components may turn out to be worthwhile in themselves but a re-ordering is required. The word 'review' as applied to TAFE-courses may include formative evaluation or summative evaluation. A review is likely, however, to be formative in the sense 'Let's see how the course has been going so we can improve it where necessary', rather than summative in the sense 'Now that that course is all over, let's find out how good it was, how well it met the stated objectives—just for the record'. In other words, as Ainley and Fordham (1979) state 'it would be mistaken to view these roles of evaluation as mutually exclusive'(p. 58). In general, then, formative evaluation is designed to improve a program (or course, or part of a course, or an aspect or component of a course). It need not necessarily apply only in cases of a pilot or trial program. Summative evaluation tends to be reserved for a process at the end of a course, i.e. when it may be regarded as complete and a decision is pending, not simply as to whether a course will be modified and what form modifications will take, but whether, in fact, it will continue at all.

It is important that another distinction be accepted, i.e. between evaluation and assessment. Rowntree (1977) explains the difference in this way:

> Evaluation is an attempt to identify and explain the effects (and effectiveness) of . . . teaching. In such an attempt, assessment is clearly a necessary component. Assessment, whether formal or informal, reveals to us the most important class of "effects"—the changes brought about in the knowledge and understanding, abilities, and attitudes of our students. (p. 7)

Assessment results can be seen as part of evaluation by providing important information (Mitchell, 1982a).

It is helpful to consider also the relationships between curriculum research and curriculum evaluation. Here again distinctions are 'convenient if not tidy' and not everyone will agree that distinctions need be drawn. With the recent stimulus given to both research and evaluation within each State TAFE Authority and at the national level, the importance of activities in these areas is becoming recognised. Instruments, techniques, and methodologies used in curriculum research and curriculum evaluation are similar. Hunkins (1980) distinguishes between the two by pointing out that research design often sets out to keep treatments constant so that 'conclusions can be reported unequivocally' (p. 315). Such an experimental posture may prevent a necessary modification in a program as a result of evidence from the evaluation. Related to this, is Hunkins' reference to the fact that class environments are replete with myriad variables, some known and some unknown. By trying to control these, a sterile classroom could result. The evaluator is not specifically in the business of advancing 'the field of curriculum knowledge with the addition of universal laws' (p. 315). This position is also defended by Popham (1975).

The above basic ideas are important in TAFE and therefore to this paper but it is not necessary to go beyond these comments to a wider or deeper discussion of curriculum evaluation in general. In 1982, with funding from the Tertiary Education Commission, and following a proposal from the Higher Education Research and Development Society of Australasia (HERDSA), Roe and McDonald conducted in five States a series of workshops on evaluation in post-secondary education. Among the participants were personnel from the TAFE Authorities. Following the workshops, and based on them, the workshop leaders have published _Informed professional judgement: A guide to post-secondary evaluation_ (1984). This has sections on the development of curriculum evaluation as a field of study as well as ideas for methodologies and instruments. The book will prove very useful for persons who wish to go beyond the basic ideas introduced above.

THE IMPORTANCE OF CURRICULUM EVALUATION IN TAFE

Quite early in the so-called curriculum reform movement, many writers were calling for greater emphasis on curriculum evaluation. Bebell's study (cited in Payne, 1974) said evaluation must be seen as part of the curriculum development process, the 'other side of the coin of curriculum development'(p. 4). Pious exhortations that evaluation must be an ongoing process abound in the literature. Evaluation is undeniably 'a good thing', not just desirable, but essential. Then why is there relatively little serious evaluation done? Why is it that so often little notice is taken of some of the evaluation that is done? Why does evaluation appear so often to be out of phase with other aspects of curriculum? These questions apply to all sections of education and certainly to TAFE. In the Kangan Report (1975) the Committee, acting itself in the role of evaluator, reported that it had found

> . . . that some TAFE institutions persist with many of the processes common to traditional secondary education—processes that assume that adult student needs are little different. (p. 19)

The Kangan Report, in discussing evaluation pointed out that 'most changes that have occurred in TAFE have been based on experience from overseas', that 'the evaluation of changes that have occurred, has normally been perfunctory' (p. 163) (a serious indictment indeed). Because of other deficiencies in course design (absence of clearly defined objectives which make explicit the intent and characteristic features of a course), it has been 'difficult to formulate without ambiguity a set of criteria on which to base a systematic evaluation of the course effectiveness except in terms of knowledge acquired by students at a particular time . . . during the course. (p. 163). In this same section, the report chose to include, by way of example, the significant fact that 'studies of wastage from courses have seldom been carried out, although the findings of such studies may have some general applicability and assist in the reduction of wastage in future courses' (p. 163). Recent work (e.g. Cumming & Mountney, 1984), is being directed to this problem.

The Kangan Report also made it clear that certain areas were worthy of serious consideration and evaluation.

> The process still adheres to examination dominated curricula, teacher dominated learning in the traditional classroom style, and the maintenance of such suspect learning devices as compulsory class attendance. (p. 19)

Members of the Committee must now feel partly reassured that in the States this advice has been heeded, that some evaluation projects along these lines have been initiated. The Report made other suggestions, both implied and explicit, for evaluation as well as research.

The research question, 'What techniques will work most effectively to teach what content and what process to whom?' (p. 166) could be an evaluation question if related to specific contexts, as the following statement demonstrates:

> . . . the Committee stated its concern to step up the pace and volume of research relating to access and to problems of literacy, student assessment, technology, and other matters. Within this general objective the Committee considers that the specific studies to receive priority should include:
>
> (d) . . . Development of new curricula to meet technological, social and other change; formative evaluation during the developmental stages to ensure that the course components are appropriate for the general vocational intent, taught effectively by the teachers and can be assimilated

> by the students; 'summative' evaluation of the completed curriculum to ensure that the course graduates in industry or commerce have gained the skills and attitudes intended. The development of effective methods for broadening students' social awareness. (pp. 167-8)

EMPHASES IN TAFE CURRICULUM EVALUATION EFFORTS

Of the evaluation projects completed in the last ten years, (i.e. post-Kangan), and those currently being undertaken, many concentrate on innovations in programs or components or aspects of programs. These innovations themselves reflect new demands, new philosophies, new ideas from the fields of pedagogy and industry. The curriculum innovations have often been possible because of special funding and the evaluation projects also have attracted funding. This is great. It supports very largely the value of formative evaluation.

There is, unfortunately, the real danger that the more traditional, well established courses (and there are plenty of these) may escape the kind of scrutiny they need and that can be provided by summative evaluation studies. Many of the existing trade courses are in this category, although in some States (as the literature shows) some work is being done. As well, evaluation and review are being completed by work in National Core Curricula (Jones, 1983). The magnitude and nature of the problem are cogently stated in the report of the Tertiary Education Commission for the 1982-84 triennium:

> . . . there are about 4000 vocational and preparatory courses offered in TAFE colleges at present. These courses must be continually reviewed and updated in the light of technological change, and new courses must be developed in response to emerging community wants and needs. (p. 93)

An example of what I mean by an emphasis on curriculum innovation when it comes to curriculum evaluation is provided by the following extract from a proposal for an evaluation project:

> The introduction of CN099 Dental Prosthetic Technology Course brings a new phase of trade training into Queensland TAFE colleges. This new development replaces an existing three-year block release training program with a full-time three-semester training program. Because this development cou'd be the forerunner of

> course developments in other trade areas, it is important that the development, introduction and progress of the new course be monitored. While it is important that an attempt be made to ascertain to what extent students have met the stated aims of the course, in this evaluation, the initial emphasis will concentrate on identifying defects in the procedural design, particularly in the sense that planned elements of the syllabus document are not being implemented as they were originally conceived. (TAFE, Department of Education, Queensland, 1983, p. 1)

EVALUATION IN PRE-EMPLOYMENT AND TRANSITION COURSES

Pre-employment courses are here meant to include pre-vocational, pre-apprenticeship, and other pre-employment courses although the term has had other meanings. Many of these can be included under the rubric of 'transition courses', a term whose exact connotations have been singularly elusive. The definition in the Draft glossary of TAFE terms (1983) for 'transition program' is used here:

> This term refers to a method of funding rather than to a specific type of course. It refers to courses, funded directly by the Commonwealth Government, which are offered to secondary students and to young school leavers selected according to their specific requirements in obtaining permanent employment. (p. 29)

(Many courses previously described as transition now come under the provisions of the Participation and Equity Program.) To the group of courses in this discussion must be added courses in the Educational Program for Unemployed Youth (EPUY). A considerable amount of time has gone into evaluation of these types of courses, largely, as suggested earlier, because they are relatively new. There have been several conferences on transition courses and more written evaluation information produced about these courses in the last five years than for any other group of courses. At the National Conference on Evaluation of Transition in Melbourne in November, 1981, reports from the different Authorities made it clear that evaluation serves different functions, including:

(a) accountability,
(b) objectives achievement,
(c) cost effectiveness,
(d) program improvement (especially self-improvement),
(e) resource allocation decision-making. (Kemmis, 1981, p. 2)

Ainley and Fordham (1979) provide a detailed, valuable account of work done in evaluation in pre-employment courses and include descriptions of data-gathering and analysis processes.

The Stufflebeam CIPP model (Context, Input, Process, Product) is appropriate here. For example, in regard to context evaluation, Davis and Woodburne (1983) say:

> The lack of any definitive theoretical basis on which to call when designing courses is a source of concern to many course co-ordinators and teachers in the (Transition) program, and obviously it would be helpful if there were some theoretical basis for saying 'this content is desirable' or 'this is not'. (p. 70)

The separate TAFE Authorities have all conducted evaluation of pre-employment courses. (See for example, Khan, 1983; and Mitchell, 1982b, for descriptions of activities in Queensland TAFE). Hocking (1982) lists a number of issues that arose during the course of a study made on evaluation of pre-employment programs. They are:

1. Most evaluation of pre-employment programmes take place within State branches of research or curriculum associated with the State Division or Department of TAFE.

2. A much lesser amount of evaluation in the pre-employment area is being undertaken by independent evaluators.

3. Little formal evaluation is being undertaken by TAFE teachers themselves, unlike the school sector where school level evaluation by teachers is a growth industry of the compulsory sector.

4. Evaluation of pre-employment programmes deals mostly with programmatic issues rather than policy issues.

5. The understanding of administrators of TAFE of the use of evaluations was seen to be limited.

6. Most evaluation is commissioned by an entity with a vested interest in a specific evaluation outcome.

7. The audience and purpose of the evaluation is often not specified.

8. The range of approaches to evaluation has been limited.

9. There is some doubt about the links between evaluation activities and decision-making. (pp. 133-136)

Hocking concludes on this rather sombre note:

> Underlying all the other issues outlined is a lack of definition of the purposes of many pre-employment programmes in the present economic context. Whilst the aims of these programmes remain unclear, evaluation of such programmes will be problematical. Evaluation of the programmes themselves cannot enlighten decision makers on the place of such programmes in today's society. Activity and research funding related to preparation for employment need to be on a wider basis. (p. 136)

At a seminar on pre-employment courses held in Brisbane in June 1983, the first two of the recommendations have further implications for curriculum evaluation. They read as follows:

> 1. That terms such as 'pre-apprentice', 'pre-employment', and 'pre-vocational' are acknowledged to be misleading and that courses be categorised into, and be known by, the recently endorsed relevant TAFE streams.
>
> 2. That the Transition program be carefully evaluated by the Commonwealth Government and the guidelines modified to allow for a greater degree of flexibility and the responsibility for the Program be transferred to the Department of Education and Youth Affairs. (p. 2) The story to date of evaluation in pre-employment (transition) programs, however well-intentioned the separate evaluations have been, points to a need for clearer statements of purpose and greater co-ordination of effort when evaluations of such a generically large group of courses, involving thousands of actual and potential customers, is to be undertaken. The lessons from the transition story are worth remembering.

A MODEL FOR PLANNING CURRICULUM EVALUATION IN TAFE

A model seems necessary to help provide a structure for planning in curriculum evaluation, particularly if limited funds, limited resources, and too few trained staff are available to mount the kind of evaluation projects that are necessary; it may help in determining priorities and providing direction. This proposed model is meant to be consistent with approaches to evaluation as described in the now classical models of the likes of Stake (1967) and Stufflebeam (1971) and with general techniques of evaluation reports in the literature in the field. It seeks to suggest ways to improve co-ordination and provide a conceptual framework for joint efforts by evaluators in TAFE.

The dimensions that provide a framework for evaluation in curriculum include levels, foci, areas of responsibility, and audience. In TAFE, the levels would be the classroom, the college, the system, (i.e. the TAFE Authority). The foci would include course and subject content, aims and objectives, teaching methods, student assessment, the learners themselves and their learning processes and styles, the teachers and resources. Areas of responsibility refer to such questions as: Who requested the evaluation? What person or group will do the evaluation? Audiences may include the public, industry, organisations, teachers, administrators, research workers. In all cases, judgments are made and decisions are, at least, expected.

These dimensions can be represented in what may be called a cross-sectional model (Figure 1). In this model, the concentric circles represent the levels at which the evaluations are initiated or conducted or directed.

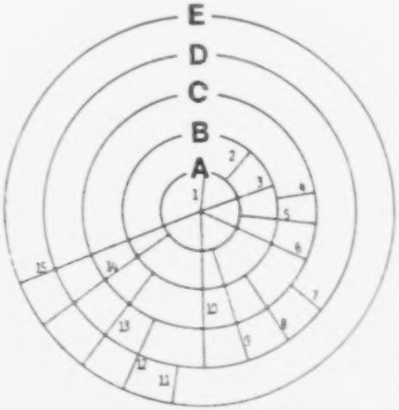

Figure 1. **A cross-sectional model for planning curriculum**

A is the classroom level; the students are within this circle.

B is the section/department level within a college.

C is the college level.

D is the TAFE Authority level (i.e. the Department of TAFE in some States, the Division of TAFE in others and so on).

E is the wider level of the community (society) including the wider education context, industry groups, parents, employers, the general public. Australia-wide evaluation projects commissioned by the TAFE National Centre for Research and Development and the Commonwealth Government would clearly be examples of evaluation at this level.

Each of the lines (1, 2, 3 . . .) represents a focus for the evaluation and its length suggests the groups caught up in the evaluation. An example of an activity represented by line 1 would be a teacher's attempt to determine whether an innovative teaching method is working with a group of students.

Line 2 may represent a senior teacher's concern about a section's attempt to report on students' achievements. Line 6 may represent a college principal's concern that students selected for a given course can cope with the content. Line 7 may represent an investigation by a Curriculum Branch (Head Office or TAFE Authority) of the way a new syllabus is being implemented in a number of colleges. Line 11 may represent the liaison between a TAFE Authority and an industry group vis-a-vis the progress of a course in which the two groups share an involvement and an interest and so on.

It would not be too difficult to use all the lines in the model to give examples of current curriculum evaluation in TAFE in Australia. What this does not say, however, is where the current emphases lie. The model may be useful in prompting thinking about where emphasis should lie and how evaluation efforts at the various levels may be co-ordinated.

The model will, of course, indicate just how complex the task can be, particularly if we now consider that there is a large range of foci for evaluation, and a large number and variety of courses. The model would be inadequate if recognition was not given to the need to co-ordinate a range of evaluation studies. The lines are not meant to be seen in isolation. In the next section, the focus is on the inner circles.

DECENTRALISING RESPONSIBILITY FOR CURRICULUM EVALUATION

It is interesting to note the number of recent studies in TAFE in Australia of projects to aid teachers in the classroom in their own evaluation of curriculum. The rationale for this rests on a number of propositions but three are worth mentioning. One is that, as is obvious, and as has been mentioned earlier in this paper, the amount of work is simply too massive for a relatively small group of evaluators. The tasks are likely to become more numerous rather than less. Secondly, it could be argued that for many of the facets of the curriculum, for many of the subjects and courses offered, the teachers in the classroom, workshop, laboratory are in the best position to conduct the evaluation and would have as much motivation to do so as anyone else—as much to gain or lose. The third is that there are current moves to devolve responsibility for curriculum design and development onto TAFE teachers. Since, axiomatically, evaluation is part of curriculum design and development, teachers need to know how to go about evaluation. The obvious need here is for serious and concerted attempts to provide teachers with professional development workshops and guidelines in curriculum evaluation. This point cannot be made too strongly.

Following the HERDSA workshop referred to earlier in this review, initial attempts have been made to assist colleges in Queensland with self-evaluation to include evaluation of curriculum and aspects of the curriculum. For example, the following questions were suggested for consideration by colleges. The first set ('college aims and objectives') although meant to be general, also concern the curriculum.

Criteria for self evaluation of TAFE colleges

1. College aims and objectives

1.1 Does the college have a written set of aims and objectives? (or goals or purposes?)

1.2 If so, to what extent are they useful for and used in present and future operations?

1.3 How do these relate to the systematic TAFE aims and objectives?

1.4 Who produced the aims and objectives?

1.5 What is the nature of the relationship between the college and the community? How do the aims and objectives of the college relate to the community?

2. **Student Learning**

2.1 What are the procedures for evaluation of student learning? To what extent are these procedures used?

2.2 Is classroom teaching performance reflected in the effectiveness of student learning? If so, to what extent? How is this measured?

2.3 Do the teachers concern themselves with student outcomes?

2.4 Is there sufficient emphasis on processes and procedures?

2.5 What informal learning activities/services are provided? What non-formal (incidental) learning occurs?

2.6 What do students value from their experiences at this college?

2.7 What do students seem not to enjoy about their experiences at the college?

2.8 Are there procedures for evaluating assessment strategies in the college? To what extent are these procedures used?

3. **Programs**

3.1 What courses are there in the college? Who designed and who developed these courses? How were they chosen for this college? Are they still appropriate?

3.2 What curriculum documentation exists? How is it used?

3.3 What is the relationship between the planned and the received curriculum?

3.4 How are programs evaluated?

3.5 What attitudes do community groups (including industry and commerce) have to these courses?

3.6 Do students express satisfaction with the courses? What is the drop-out rate in the various courses?

3.7 What are the attitudes of the teaching staff to these courses?

3.8 How effective are the extension courses? How is this determined?

As well as this, a set of Guidelines for College Personnel Undertaking Program Evaluations (Smith, 1984) has been prepared. The use of these guidelines is explained in the introduction:

> . . . there is a growing need for colleges to seek greater involvement and responsibilities in developing courses, devising teaching and learning methods, and assessing students. These college based initiatives need to be supported by appropriate evaluation studies. The following guidelines have been prepared to assist college administrators and teaching staff who wish to undertake college based evaluations. (p. 1)

CONCLUSION

This has been a general discussion of a number of issues in curriculum evaluation in TAFE in Australia. A large list could be prepared for those aspects of curriculum evaluation not included. Evaluators working in isolation often clamour for information on techniques and methodologies that have worked for others. How often do evaluators feel they are reinventing the wheel when it comes to designing a questionnaire or interview schedule, when the basis of an appropriate instrument is already in existence, one that has been trialled, validated, and used productively. There must be examples where a participant observation methodology has been successful and others where the methodology, for a variety of reasons, has failed. It would be valuable to know which of a range of statistical processes have proved useful, in different contexts, and for different purposes. Ways to share experiences, to discuss successes and failures, to build up a background which will go some way towards developing coherent theory for evaluation in TAFE are needed. A major study leading to a handbook and/or a regular publication would be valuable. Reports on evaluation studies are available and others can be made available for such a publication. National conferences and seminars, such as the one organised by the Canberra College of TAFE in September 1984, will suggest further ways to improve evaluations at the classroom level as well as those at other levels.

Kemmis (1981), summing up the National Conference on Evaluation of Transition said that reports presented and discussions held led to four required strategies.

- Strategies for costing awareness of evaluation responsibilities throughout the program. These were hinted at, but no clear points emerged with a general commitment to communication among those involved.

- Strategies for supporting evaluation efforts throughout the program. Interest was expressed in the conscious allocation or resources (by Commonwealth and State Authorities) for evaluation across all levels. In particular, consultancy and resources should be made available for individual program/institution evaluation efforts. Action research was suggested as a form for local evaluation work. It could be linked to other school-level evaluation and project self-evaluation initiatives.

- Strategies for co-ordination of evaluation responsibilities and activities. There was support for the notion that State, Commonwealth and other agencies should give attention to evaluation priorities across program types and levels of responsibility. State committees might have special obligations here. Patterns of resource allocation across evaluation efforts required further consideration. Difficulties in communication between levels were noted.

- Strategies for dissemination of evaluation reports. The role of the National Clearinghouse was noted here. The network of conference participants was also recognised as a potent informal network for communication and dissemination. (pp. 3-4)

Course design and development are proceeding apace in all TAFE Authorities, and nationally. The need for evaluation studies to keep pace with this activity has never been more apparent than it is now.

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TAFE STAFF DEVELOPMENT
BY DAVID SNEWIN

INTRODUCTION

Staff development, which is the professional, vocational, and personal development of an organisation's most important resource, its personnel, is receiving renewed emphasis in today's competitive economic climate.

Emerging, and rapidly changing technologies, have caused many organisations to undertake an urgent assessment of the current and future training needs of their human resources. In some cases, the outcome of the assessment has been most unpalatable to the organisations concerned. Valuable human resources have been found to be technically inadequate to meet the demands of new technologies, in both theoretical and practical terms.

Smaller organisations have lost their competitive edge due to the prohibitive cost of purchasing new equipment and of retraining staff. In attempting to continue with obsolescent equipment and with staff with outdated skills, these organisations have eventually met their predictable demise.

As a major training organisation to business, commerce, and the public service, TAFE Authorities are particularly vulnerable to the effects of technological changes, particularly with regard to staff and equipment updating. A search of the Australian literature indicates a developing thrust in the field of TAFE staff development. This is likely to increase as TAFE Authorities are forced to grapple with the problems of staff obsolescence. This review examines some of the current staff development programs and research while suggesting areas for further research into this most crucial field.

BACKGROUND TO THE PROBLEM

The TAFE sector is facing ever-increasing public demands to provide a greater variety of courses of a vocational, general interest, and leisure oriented nature. New technological developments, a changing societal structure, and a new emphasis upon leisure have presented challenges for which many TAFE institutions have been unprepared. The present climate of greater public accountability, coupled with increasingly severe financial constraints and climbing enrolments, has only tended to exacerbate the situation.

The demands facing the TAFE sector for the 1980s have been determined by the Tertiary Education Commission (TEC), in its Report for the 1982-84 Triennium (1981a) as encompassing two major priorities:

> The first is to provide the knowledge, skills and educational environment which will best ensure a skilled, adaptable and well-informed workforce able not only to meet the complex demands of a changing society and workplace but also to realise the individual potential of its members in the face of these changes.
>
> The second and related priority is to prepare as many young people as need or seek assistance to make a smooth and rewarding transition from childhood and schooling to the challenges and opportunities of adult life. (Vol. 1, Pt. 4, pp. 13-14)

In attempting to meet these priorities, TAFE must continue to rely heavily upon the technical, specialist, and teaching expertise of its teaching staff. In this regard the Williams' Committee (1979) has argued:

> The basic quality and effectiveness of any teaching organisation is largely determined by the quality of its teachers. For teachers in the TAFE sector, technical knowledge and skill in their subject field, professional competence as teachers and personal development as individuals with a breadth of view, and some administrative capacity, are all important. (p. 310).

Of some significance is the reference to administrative capacity, heralding the current emphasis on administrative training for both TAFE administrators and potential administrators.

It is imperative then for TAFE systems to be attuned to the needs of both industry and the community. Ideally, TAFE institutions need to be staffed by highly trained, competent administrative personnel and support staff working in close co-operation with innovative and up to date professional teaching staff. However, the Tertiary Education Commission, in expressing concern over this issue in its Report for the 1979-81 Triennium claimed that:

> . . . little attention has yet been given to the important task of ensuring that TAFE teachers keep up to date in their subject areas, the content of which may be changing rapidly with changes in the vocational fields for which the teachers are preparing people. (p. 146)

Some two years later, the TAFE Staff Development Committee (1981) could still claim in the NSW TAFE Quarterly Journal:

> Evidence suggests that the technical knowledge of a significant number of TAFE teachers lags behind technological developments in industry and, what is more, as the pace of technological change increases this situation will probably worsen. (p. 2)

Some further criticism has been levelled at TAFE staff development by the Williams' Committee (1979) which rebuked TAFE for its ' . . . inadequate staff preparation and development' (p. 28), a comment which was quite justifiable at that time.

From the foregoing typical criticisms it can be seen that the provision of on-going programs of staff development for teaching staff in TAFE institutions, have not always received the high priority which they deserve. Only in comparatively recent times have TAFE Authorities addressed the need for teaching personnel to update their technical skills and knowledge.

Teaching skills and professional development programs have also received considerable attention from TAFE Authorities. Competency Based Teacher Education programs (CBTE), and modular self-paced learning packages are being utilised as part of the total staff training and development program in some States.

STAFF DEVELOPMENT APPROACHES

Dillon-Peterson (1981) has provided a useful definition of staff development in an educational setting which is particularly appropriate to the TAFE sector:

> Staff development is a process designed to foster personal and professional growth for individuals within a respectful, supportive, positive organisational climate having as its ultimate aim better learning for students and continuous, responsible self-renewal for educators and schools. (p. 3)

Generally speaking, staff development can be approached from two very different viewpoints, where the first, and perhaps the most common concept, is the 'defect approach'. This traditional view of staff development has as its basis, the detection of weaknesses in the technical or teaching skills of staff. Appropriate activities are then developed to repair the faulty condition. This 'band aid' approach is slowly giving way to the second and more acceptable model of staff development; the 'growth approach'.

The growth model is particularly well-suited to the human resource development concept, where the needs of the organisation are balanced with the needs for self-fulfilment, job satisfaction, and the technical and teaching requirements of individual staff members.

The major difference between the two models is where the growth approach consists of an ongoing developmental program, tailored to individual requirements, and where a collaborative approach is taken. The premise underlying the growth model is that participation in, and responsibility for, the teacher's own professional development will increase the effectiveness of the staff development process.

In the past, the main thrust of many staff development programs has unfortunately been aimed almost solely at teaching staff. The needs of other essential personnel in the TAFE system have frequently been ignored or unrecognised. The Tertiary Education Commission (Report for the 1982-84 Triennium, Vol. 1, Pt 4, p. 107) has identified the various categories of personnel where staff development is required as including:

- senior teachers and senior administrative staff
- full-time teaching staff
- part-time and short-term contract teachers
- non-metropolitan teaching staff.

These categories of personnel provide a useful basis for assessing the staff development requirements of personnel in TAFE institutions, while ultimately relating towards satisfying the needs of the client group.

Client group needs for vocational training are particularly pressing on TAFE; the TEC in its Report for the 1982-84 Triennium (1981a), has stated:

> TAFE is the principal trainer of skilled manpower for industry; its output in trade and technical training will be critical to the development plans of the next decade. (Vol. 1, Pt. 1, p. 174)

Furthermore, the TEC noted in its Report some potential problems likely to arise from technological developments, particularly:

> . . . some vocational areas are undergoing such rapid development that teachers will need special assistance in updating and maintaining their vocational knowledge and skills. (Vol. 1, Pt. 4, p. 137)

TECHNICAL UPDATING AND RETRAINING PROGRAMS FOR TAFE STAFF

Staff development in TAFE poses a considerable problem for the TAFE Authorities and it is evident that technical updating and retraining programs are becoming major features in staff development schemes. As an indication of the size of the problem one TAFE Authority has indicated the retraining needs of its staff in the following manner:

> . . . it is estimated that 33 per cent of staff will require major retraining in the next five years, a further 36 per cent in the following five years and 23 per cent within 15 years. Thus, in the foreseeable future, about 12-15 per cent of DFE staff will require major retraining every year. (South Australian Department of Further Education, 1980, p. 24)

The financial implications for such an extensive retraining program are awesome, and particularly so when coupled to the requirement for updating expensive capital equipment to meet the demands of new and changing technologies. Nonetheless, suitable means must be found if TAFE is to maintain its educational credibility and technical competence in meeting the demands of the 1980s. Stronger and more co-operative links with industry could be a useful strategy for providing access to new equipment for familiarisation purposes. In the same manner, a joint co-operative approach involving industrial interchange of staff could be mutually beneficial to both TAFE and industry.

In order to ensure this technological updating and retraining of staff, the TEC has recommended that the National Staff Development grant be increased as follows:

- from $2.9 million in 1981 to $3.6 million in 1982
- from $4.3 million in 1983 to $5.0 million in 1984.

The pressures upon senior administrative personnel will be considerable, particularly with regard to the planning, organising, and controlling functions of their roles. With this in mind, staff development of administrative personnel has been accorded a high priority of TAFEC:

> The major recommendations of the Staff Development Committee relate to the development of senior staff in TAFE colleges and the maintenance of the technical competence of TAFE teachers. (Tertiary Education Commission, 1981a, Vol. 1, Pt 4, p. 136)

Senior administrative staff development programs can be expected to increase quite significantly in the near future as the full implications of the situation become apparent to TAFE.

SENIOR ADMINISTRATIVE STAFF DEVELOPMENT

TAFE college administrators typically have progressed through the ranks as teachers in particular trades or professions and have had little, or no, prior administrative experience. Relatively few TAFE college administrators are professionally qualified in management or educational administration. The demands of the job, and frequently a lack of encouragement from the system, have tended to relegate professional administrative and management studies to a low priority.

Nonetheless, many senior administrative staff have taken the opportunities afforded by the various Public Service training organisations and TAFE staff development schemes, to undertake short courses and seminars of an administrative nature. Senior administrative staff have attended conferences, actively participated as members of professional administrative or management organisations, or commenced professional reading programs in these areas.

It is essential however, that skills gained at these activities bear directly upon the administrative role and meet the perceived needs of the individuals concerned. Some guidance has been provided by the TAFE Staff Development Committee (1981) of the TEC in this respect. The Committee has proposed four sets of skills required in differing amounts by various levels of senior TAFE college staff:

- skills related to the management of organisations
- skills relating to the management of staff
- skills related to the management of the educational process
- skills related to understanding the nature of TAFE and the industrial, economic and social contexts in which TAFE operates. (p. 11)

The TEC Committee noted that any special thrusts towards senior staff development in the 1982-84 Triennium, should desirably include these identifiable and interrelated areas.

The Education Department of Western Australia, Technical Education Division (1981) addressed the need for training and development of TAFE college administrators at some length. In a major staff development exercise, principals, deputy principals, heads of department and senior lecturers were surveyed to ascertain their perceptions of the degree of importance of 35 specific competency statements which had been obtained from a literature search. These statements were considered as encompassing all of the competencies required for the effective execution of the duties of college administrative personnel. These competencies were classified under the following nine broad categories, listed in order of importance as perceived by the respondents to the survey:

- skills of management
- understanding the Technical Education Division (TED) and likely future developments
- knowledge of the TED administrative network
- financial management
- skills associated with extra-institutional management
- skills associated with educational leadership
- skills in college administration
- understanding procedures of college administration
- understanding procedures of staff management.

Further to rating the competency statements in order of importance to the administrative duties of respondents, the administrators were requested to indicate the degree of importance which they attached to the training of administrative staff in these competencies. The outcome was somewhat surprising in that respondents, as a whole, did not believe that prior or subsequent training in these competencies was necessary. It was subsequently pointed out that the respondents were experienced practitioners with little, or no, formal training for the positions they currently held. In all probability their answers reflected their pragmatic approach to administration.

The WA Technical Education Division selected Competency Based Administrator Education (CBAE), as the most appropriate form of training and development for their senior administrative personnel. The CBAE program was considered most suitable for TAFE due to its individualised, self-paced nature and its other advantages which included:

- feedback
- systematic programs
- emphasis on final performance
- modular form
- practicality of outcomes with regard to trainee and program accountability.

No formal qualifications were to be attached to the successful completion of the proposed CBAE program, although the integration of the in-service CBAE program, with an appropriate college of advanced education or university course, was considered to be desirable.

Senior TAFE personnel in New South Wales have the opportunity to participate in three approaches to training through the New South Wales TAFE Staff Development Division. The three approaches are:

- Promotion Training
- Executive Development
- Organisational Development

The aim of the Promotion Training approach is to develop suitable administrative and managerial skills in staff looking towards promotional positions. The emphasis of this training program is upon experiential learning, rather than upon administrative or managerial theory. Assistance with the program is provided by both senior staff and the trainees' peers.

Individual Executive Development programs are offered to administrative and managerial personnel who have demonstrated their potential for more senior positions. The program normally operates at two levels; externally through courses, seminars and conferences, and internally through work-related staff development activities including special projects, secondments and staff exchanges.

The aims of Organisational Development Training include: enhanced communication and co-operation between TAFE college staff members and working groups; aiding in the development of innovative approaches to problem solving; organisational goal setting; and the development of an awareness to client group needs and appropriate responses to these.

Senior administrative staff development in the South Australian Department of TAFE takes the form of a series of Management Workshops on topics of immediate use to participants. The aims of the program are to develop in an informal way, the knowledge of managerial concepts and problem solving skills of use in college and head office situations.

The following characteristics are included in the general format of the workshops, which

. are self-contained: participants need attend only those workshops in which they are interested;

. are aimed at developing practical skills or an understanding of managerial concepts;

. have a minimum of theoretical input;

. represent an activity-based methodology, including: discussion, case studies, role play, etc.

. include a period in which to plan the implementation of concepts and/or skills covered;

- incorporate a philosophy that ideas about management have to be adapted to meet their particular context;
- comprise one half day per week for thirty weeks for the entire program.

It is further expected that participants will attend the workshops with the following:

- clearly established goals
- enough autonomy to implement changes in their work situation and/or . . .;
- an agreement with their own management to develop on-the-job implementation of ideas or concepts learned.

Sessions are generally well attended and feedback is sought from participants to evaluate the various activities and to incorporate any modifications suggested as necessary. Typical of the session content are the following:

- Managers and management
- Time management and handling paperwork
- Effective delegation and participative management
- Leadership and motivation
- Tools for planning and control
- Program management and budgeting
- Problem solving and decision making
- Evaluating organisational performance
- Staff development and the college manager
- Marketing an educational program
- Improved communication
- Improved lecturer performance.

STAFF DEVELOPMENT OF TAFE TEACHERS

The writer surveyed 68 per cent of the total Business Studies lecturing staff in the South Australian Department of TAFE, in an attempt to determine perceived staff development needs (Snewin, 1981). Respondents were asked to state the most important staff development activity which they would like to see introduced into their school or college.

Responses to the question were subsequently categorised under the following headings:

- Inter-Personal Skills
- Technical/Specialist Skills
- Career Development.

Under the heading of Inter-Personal skills, respondents placed:

- counselling procedures
- teamwork skills
- collegial decision making
- human relations training.

Technical/Specialist Skills received the following responses:

- industrial secondment--involvement with a commercial project;
- regular interchange of staff with industry, commerce, public administration, and community leadership activities;
- attendance at seminars and continuing educational programs in one's field of expertise;
- residential Business Studies conference;
- visiting speakers on specialist subjects of an industrial or educational nature.

Career Development attracted the following responses:

- teaching methodology for both full-time and part-time teachers;

- techniques for developing course material;

- regular inter-disciplinary exchanges of views and experiences;

- introduction of computer usage to staff for educational and administrative applications.

Ainley and Fordham (1980) discovered in their survey of TAFE Authorities in South Australia and Victoria that up-to-date knowledge of recent developments in their area of specialisation, was the most important staff development need for full-time TAFE teachers. Four other areas of need were:

- curriculum development skills

- understanding the nature of TAFE

- counselling skills

- a basic administrative knowledge.

Subject matter and teaching practice skills and knowledge were also emphasised as important by many teachers in the survey. However, the main thrust in current staff development trends is undoubtedly centred on technical updating of TAFE teaching staff.

Technical updating involves training staff to bring their existing skills in their respective fields up to date with the latest technological developments. In particular, these latest developments would include processes, materials, tooling, or methods, while similar updating of theoretical knowledge in the areas of expertise would also be included.

The South Australian Department of TAFE allocated $86,000 in 1982 for the purpose of updating technical competence among its lecturing staff. Specified activities included:

- industrial leave

- industrial courses

- research projects

- external courses, seminars, workshops, conferences, etc.

- specially designed activities using external experts

- other activities open to negotiation with the Department.

(South Australian Department of Technical and Further Education, 1982, pp. 1-5)

The Department utilised the following criteria for the selection of proposals for approval:

- priority given to program or curriculum area by Department managers;
- relevance to commerce, industry, and community needs;
- urgency of update;
- number of people who would benefit in the Department;
- specific nature and methodology of the project as set out in the submission for funds, including educational objectives and purposes;
- steps which the officer would take in disseminating the knowledge and skills gained to appropriate Department personnel;
- the nature and extent of support from the college principal or branch head.

College principals were urged to view the proposed activity as being in addition to the normal staff development activities expected of staff. Similarly, it would also be expected that the proposed activity was a priority for the particular program or curriculum area and was also a college priority.

The 1982 program provided the opportunity for 190 staff members to undertake some form of Technical Competence Training.

The major updating emphasis involved the electronic and micro-electronic changes in equipment used in each industry.

In the 1981 survey of Business Studies lecturers at the S.A. Department of TAFE, (Snewin, 1981) staff showed three areas of need as being 'Very Important'. These were, in order of importance:

- updated technical/specialist skills

- student assessment/evaluation
- student counselling skills.

In the same survey, respondents stated that the most important forms of staff development were, in order of importance:

- involvement with an industrial project
- conferences, seminars and workshops.

Short courses, part-time and full-time study, were perceived to be of almost equal importance by respondents. However, the industrial project involvement was by far the most popular choice with TAFE Business Studies lecturers.

Snewin found that 49 per cent of respondents had attended no in-service activities in the previous twelve months, while 43 per cent had attended between one and four activities in this period.

CONSTRAINTS UPON STAFF DEVELOPMENT ATTENDANCE

Respondents to the Business Studies survey quoted the following constraints as 'Very Important' in restricting their attendance at staff development activities, in order of importance:

- cost of activity (travel, registration etc.)
- difficulty in obtaining suitable replacement
- department policy on attendance
- lack of encouragement from school.

The survey carried out by Ainley and Fordham (1980) produced similar results; respondents indicated that under the main heading of System-Wide Policies the following three factors were the main constraints upon staff development attendance:

- funding, particularly for travel and registration costs;
- policies and regulations affecting attendance;
- policies affecting replacement staff, promotional and salary criteria, amount of Departmental support and types of centrally initiated activities provided. (pp. 9-10)

Under the main heading of College Policies, Ainley and Fordham noted four background factors likely to influence the effectiveness of the college staff development program:

- location of the college; for example, distance from industry
- size of the college
- type of college
- college staff development policies.

The final major heading of Characteristics of Staff indicated the factors which were likely to affect attendance. These were:

- the number of staff at the college, since this affects the matter of replacement staff
- number of staff working in the same area
- teaching responsibilities of staff members
- personal or domestic responsibilities—particularly acute for part-time staff.

A supportive environment involving the co-operation of both college administrators and the peer group would be beneficial in reducing the effect of the foregoing constraints upon staff development activity attendance. Team teaching and the allocation of staff development funds into a pool for the use of replacement staff could further reduce attendance restrictions.

Of the sample of 53 Business Studies lecturers surveyed in the S.A. Deparment of TAFE by the writer, 46 were not currently enrolled in any educational field of study. Perhaps of more concern was the fact that 43 of the respondents were not enrolled in any study program in their technical/specialist field either.

Another South Australian study of a TAFE School of Mechanical Engineering by Swain and Cappo (1980) which involved 42 lecturers found that while 40 were not enrolled in any further technical studies 34 were undertaking no further educational studies. It should be pointed out that in both of these examples the majority of the lecturers had already attained their basic teaching diploma, while most had trade or professional qualifications prior to joining the Department.

CLINICAL SUPERVISION PROGRAMS

Clinical supervision of new teachers in their colleges continues to receive close attention from staff development personnel. Variations of the clinical supervision approach have been in use for some years; indeed the Division of TAFE in Queensland has used clinical supervision in its teacher preparation program since 1976.

In Victoria, Educational Services Co-ordinators are located in TAFE colleges to assist TAFE teachers with staff development matters. Their principal role is to develop and implement college-wide policy in the educational support services area and within this function, staff development is a major responsibility. TAFE teacher education and initial teacher training is similarly embraced by the Educational Services Co-ordinators role. The success of this program has led to an expansion in the Victorian TAFE Educational Services area.

The Staff Development Centre of the South Australian Department of TAFE has introduced a program of Clinical Supervision into its staff development activities. Following the training of college staff as teacher trainers, officers of the Staff Development Centre provide a management consultancy service to assist these college-based clinical supervision co-ordinators. The management consultancy service is also available to all line managers in the colleges and in head office to assist with the planning, organising, implementing, and evaluating of local staff development programs. The Centre also assists with longer term college-based senior staff development projects.

TEACHER EDUCATION COURSES

Teacher education programs have often, justifiably, been accused of a prescriptive and inflexible approach in the past. Although the debate on the inclusion of liberal studies and technical subjects in teaching diplomas still continues, there is a very real need for TAFE teacher education authorities, in conjunction with TAFE systems, to continually evaluate the effectiveness of their courses.

In some States, awards in teaching in further education have allowed students to combine specific areas of interest with their formal educational studies. This increased flexibility can provide student teachers with the opportunity to update their theoretical knowledge of a technical subject, within their own area of technical expertise. For example, the entry of microprocessors into so many technical fields has produced a knowledge gap in the subject matter of many TAFE teachers.

Trainee teachers enrolled in one South Australian CAE can undertake up to 50 per cent of their studies in areas of their own choice. Students may take this opportunity to update their technical knowledge in new developments, or carry out research projects into TAFE needs, or research and develop new courses for their institutions.

RECOMMENDED AREAS FOR TAFE STAFF DEVELOPMENT RESEARCH

From the foregoing discussion on TAFE staff development activities, a number of areas for further research would seem to be evident. A literature search of TAFE staff development research indicates that this field has not received the attention which such an important matter deserves. The following research recommendations are suggested as being worthy projects for consideration.

- Joint assessment by college administrators and industrial managements of the needs of industry in the short term and long term, with implications for TAFE, including possible partnership roles in retraining and technical updating measures for TAFE staff.

- Assessment of the retraining needs of TAFE staff facing obsolescence, as distinct from skills updating needs in their technical/specialist areas.

- The determination of the likely profile of a 'typical' TAFE teacher needed five years from now, with particular emphasis upon vocational and educational qualifications and skills, while indicating specific aptitudes and attitudes likely to be necessary at that time.

- Research into the specific administrative/management skills and knowledge required by TAFE college administrators, with suggested methods for attaining these. Consideration should be given to the desirability of full-time and part-time study of formal courses, seminars, workshops, conferences, reading programs, secondments etc.

- Further research into the feasibility of industrial interchange on an industry-by-industry basis.

- Research into the educational and training needs of part-time TAFE teaching staff.

- A feasibility study into the interchange of TAFE teachers with teacher training institution educators, to enable each of these to better appreciate the work of the other.

- Assessment of the staff development needs of TAFE administrative staff and support staff.

- Investigation of the possibility of utilising TAFE staff as consultants in their area of expertise, to other government departments, on a paid basis. This would provide outside experience as well as a new interest in the area of expertise of teaching staff.

- The determination of the desire of TAFE teachers to engage in team teaching and group discussion activities, with a view to developing a more open, co-operative, and cohesive teaching group.

- Assessment of changes in career interest in TAFE teachers with the passing of time. This could be of even more benefit if linked to regular career counselling and performance appraisal programs.

- Review of study leave provisions to enable staff to continue their professional development with some relief from other duties, after they have completed their basic teaching qualifications.

- Research into the need for more extrinsic rewards and recognition in return for successful completion of further studies of an educational or a technical nature. Rewards other than those of a promotional or financial nature should be determined.

- Research into the ways of developing future administrators; possibly using an understudy system; for example, linked with career counselling.

- The determination of the factors which influence the successful outcomes of staff development activities.

In conclusion the assessment of the educational, and the training and development needs of administrative, support, and lecturing staff in TAFE Authorities can no longer be postponed. Effective Human Resource Development programs must be given immediate priority if TAFE is to successfully meet the challenges of the 1980s.

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OPTIONS FOR THE EVALUATION OF TAFE COLLEGES

BY PETER THOMSON

INTRODUCTION

The Williams Committee noted that 'interest in evaluating the quality and quantity of the education system has grown faster than the capacity to do the evaluation' (Williams 1979, p. 804). Nothing could be truer in respect to the evaluation of TAFE colleges because a review of this field of activity in Australia provides very little reading.

It is interesting to contrast this absence of evaluations of TAFE institutions with what would be required if they were more like non-educational profit seeking businesses. The consequences of continuing to neglect this area could well be seen as having a number of adverse effects on the system. The time therefore seems ripe for a closer examination of the likely future role of evaluation in the development of TAFE colleges.

In addition to looking at the limited amount of work being done on the local scene, this review will draw upon various overseas examples of institutional evaluation which have relevance to TAFE in Australia.

It should be stressed that the topic addressed is whole institution evaluation. Thus, while evaluations of parts of college operations have become more common in recent years—program evaluation being a good example—little attention has been given to the whole college. The implicit assumption in evaluating a college *in toto* is that the whole is greater than the sum of its parts, an important idea to be kept in mind in what follows.

Any discussion of the literature needs to begin by explaining how the term 'evaluation' is being used. Firstly, the review differentiates between 'research' and 'evaluation' and the distinction made by Popham (1975) has been accepted. Popham sees research studies as those primarily designed to add to the body of knowledge on the subject being researched. Research is about drawing conclusions; it emphasises the value of truth and has high generalisability. Evaluation, on the other hand, is about providing information for particular purposes. Just what these purposes are remain the subject of some debate but there are two main approaches. These are evalautions providing:

- information for decision making based on an assessment of worth or merit,
- information for improvement.

The first of these derives from a number of authors (House, 1980; Scriven, 1967; Stufflebeam et al., 1971), whereas the second has been proposed by Cronbach and his associates (1980). They are not mutually exclusive alternatives, although the first implies a more judgmental attitude towards evaluation than the second.

Irrespective of the degree of judgment involved, the generalisability of educational evaluation results is usually much less than is the case with educational research. However, there seems to be little value in pursuing the issue of definition beyond these general statements because this review will focus on an understanding of the different functions of evaluations.

Two broad categories of evaluation will be considered, those with a 'formative' emphasis and those with a 'summative' emphasis. This paper adopts the formative and summative distinction suggested by Scriven (1967). Formative evaluation refers to the act of assessing worth or providing information about the activities of an institution in which the activities are capable of being modified during the course of the evaluation. Such evaluations are characterised by flexibility and a commitment to making changes as soon as these are perceived to be necessary.

Summative evaluation, on the other hand, assesses the worth or provides information on an activity at some predetermined point in time or on the activity's completion. Summative evaluations have little flexibility. They may be designed with improvement in mind, but any changes aimed at improving things are made at the end of the evaluation.

Monitoring the use of an interim collection of curriculum materials in a classroom setting is therefore the task of a formative evaluator. In this situation the materials can be improved during the life of the evaluation. However after these curriculum materials have been enshrined between hard covers, an assessment of their worth would become the province of a summative evaluator.

EVALUATIONS WITH A FORMATIVE EMPHASIS

As defined above, formative evaluations are those directed towards ongoing modification and improvement of an existing situation and, although a number of summative elements may be addressed during the course of the evaluation, there is no doubt about the overall emphasis.

An example of how this might work in practice can be seen in the evaluation of a college's teaching program. If, during such an evaluation, a decision was made to introduce a staff development program to train all staff in improving some aspects of their teaching techniques, then this should have a substantial 'formative' impact on the whole teaching program. On the other hand, if a decision was made to terminate an elective subject at the end of the year because enrolments had dwindled to almost zero, then this is a 'summative' decision with a relatively small impact. Overall, the effect on the teaching program of the formative element (the introduction of the staff development program) is much greater than that of the summative element (the termination of a single subject). When such a pattern is repeated in other areas of a college's operations the formative emphasis of the evalution becomes apparent.

Case study evaluations

During the 1970s a growing disenchantment with the agricultural-botany approach to social science research led to an upsurge of interest in more qualitative methods (Campbell, 1974; Cronbach, 1975; Parlett & Hamilton, 1972).

In more recent times, with a number of aspects of the experimental approach to social science research discredited, evaluators such as Stenhouse (1979) have been arguing for a greater concentration on case studies. Stenhouse believes there has been an overvaluing of the written source, of the statistical and of the accounts the educational systems offer of themselves. While he concedes the value of the statistical approach in industrial and agricultural settings he feels that:

> the attempt to deploy it to evaluate education and social programmes, thereby guiding decision makers by law-like predictions, has exposed serious weakness in the paradigm. (p. 9)

Stenhouse believes that the way to approach this problem is through case studies grounded in day-to-day educational reality.

He offers two principal methods, the ethnographic tradition of participant observation and the gathering of oral evidence by interview. A case study approach to institutional evaluation which conformed with Stenhouse's view would call for observation and description of the highest order.

MacDonald and Walker (1977) define case study as the examination of an instance in action. The word 'instance' is chosen because it implies a goal of generalisation. The authors point to the esteem in which the procedure is held in disciplines such as medicine, law, psychology and anthropology, but note its limited use in education. They identify a number of the reasons for this which are essentially bound up in the human responses to this type of study and the inevitable questions about reliability and validity.

MacDonald and Walker propose a set of guidelines for dealing with case studies in a way which addresses reliability and validity issues. For instance, they see a need for 'condensed field work' which ensures quicker feedback than is traditionally available from such studies. They also advocate the use of techniques which have their origins in such fields as journalism, documentary film making and novel writing.

Perhaps more importantly they see confidentiality as a critical aspect of the procedure. They believe many people are ill-equipped to handle a skilled interviewer and would want to ensure that retrospective control of editing and release of data was in the hands of the participants in a case study.

Evaluators using a case study approach have other significant matters to consider. Simons (1977) has, for instance, argued that they must resolve to act as 'honest brokers' of information.

> The purpose of the case study is to make the experience of innovation accessible to public and professional judgement, and not to provide a vehicle for the biases or personal judgement of the evaluator. (pp. 179-180)

Just how far this 'honest broker' analogy can be taken is debatable, some would claim it is just not tenable. Indeed, Cronbach et al. (1980) in their formidable list of 95 theses about evaluation, include a number which challenge the notion of the evaluator as an impartial individual. Consider, for example, Thesis No. 44 -

> The evaluator's aspirations to benefit the larger community has to be reconciled—sometimes painfully—with commitments to a sponsor and to informants, with the evaluator's political convictions, and with his desire to stay in business. (p. 6)

Institutional self-study for improvement

In 1980 the National Center for Higher Education Management Systems conducted a survey of American universities and colleges which showed that 882 institutions out of 1082 surveyed had established a formal process of program review. In virtually every case 'program review' was defined by the institution as teaching or administrative 'unit review' (Holdaway, 1981).

The widespread commitment to self-initiated evaluation in the United States contrasts with the paucity of such efforts in this country. Following their review of various types of evaluations in Australian Universities Clarke and Birt (1982) conclude:

> If universities are to avoid having dramatic changes imposed on them by governments through control of the purse strings, they should fully embrace the principle and practice of 'continuous' assessment and review of their role, structure and function to achieve internally controlled evolutionary changes within the constraints of public funding and public expectations. (p. 24)

Although Clarke and Birt direct their attention more towards summative types of evaluations in Australian universities, their message seems equally applicable to TAFE colleges.

Institution self-study for improvement usually consists of two major phases: an internal study phase conducted by the departments or institution and a formal review phase conducted by a review team which may include experts from outside the institution. However many variations of these procedures occur under the self-study for improvement umbrella. (See, for example Reinstein & Williams, 1979; and Vancouver Community College, 1979).

The bulk, if not all, of the evaluation work in the cases cited is carried out by the staff and the reports produced are mainly directed at the internal community of the institution.

EVALUATIONS WITH A SUMMATIVE EMPHASIS

Evaluations with an emphasis on such things as accountability, cost efficiency, credentialling and inter-institutional comparisons are for the most part summative in nature.

The procedures for the accreditation of colleges in the United States have spawned their own special evaluation industry. Although these college accreditation procedures typically contain the notion of improvement through self-study, their underlying purpose is to meet a set of standards established by the U.S. Council on Post-secondary Accreditation. Failure to achieve accredited status can adversely affect a college's ability to obtain government funds and students from a non-accredited college can be denied employment opportunities (Kells, 1980, p. 9).

Some authors, (for example: Wickline, 1971; Dennison, 1979) see a relationship between the concept of financial audit and educational evaluation. This view stresses the terminating or summative nature of the evaluation as well as its cyclical qualities. Evaluations of an 'audit' type are recommended at varying periods of from one to five years.

Sizer (1979) notes as increasing interest in accountability procedures in recent years. However, he is dubious about the use of management techniques, such as the Program Planning Budgeting Systems (PPBS) and Cost Benefit Analysis (CBA), in assessing educational institution performance for the simple reason that it is very difficult to get agreement on what should be the short and long term goals of an institution. Nevertheless, he does advocate the use of performance indicators and the application of basic accounting theory to judge the standards of the indicators that are used.

Other authors are pessimistic about the quality of available measurement instruments (Lindsay, 1982; Romney et al., 1979). Despite this, when discussing the 'efficiency dimension' of institutional performance, Lindsay argues for comparative input-output approaches which use a range of quantitative techniques from simple ratio comparison to more sophisticated multi-dimensional comparisons. Such a view contrasts sharply with that of the formative self-study evaluation proponents who downplay or reject the idea of inter-institutional comparison.

OPTIONS FOR TAFE

A search of the recent Australian literature reveals little that approaches a whole institution evaluation of a TAFE college. Elsewhere in this volume Mitchell (1985) has noted Queensland initiatives in college evaluation but these are not yet the subject of any reports. One of the few reports available is Woodburne's (1982) evalaution of Mount Druitt Technical College. While the scope of this study was reasonably comprehensive, it did omit a consideration of the key area of student learning. Woodburne excused this omission on the grounds that to take it up was beyond the resources of the study. Nevertheless this is a serious deficiency when considered in terms of evaluation for improvement. It is hard to see how any realistic judgments can be made about college improvement if the issues of teaching and learning are not addressed.

More recently a study commissioned by the TAFE National Centre for Research and Development (Byrne et al., 1984a) describes a number of procedures designed for the evaluation of TAFE colleges which have been tried out in New South Wales, South Australia and Victoria. This report and its accompanying Handbook on TAFE college evaluation should go a long way towards improving the state-of-the-art in the TAFE area.

At this time it is difficult to be sure whether the prevailing persuasion for TAFE institutional evaluation will be toward a formative or summative emphasis. Although Byrne et al. are quite unequivocal in their preference for the formative direction (a bias they share with the majority of writers on the subject) the strength of the summative 'lobby' with its stress on accountability cannot be denied.

Factors such as

- institutional goals
- problem oriented approaches
- measurement instruments
- external consultants
- government reviews
- colleges as a part of a wider TAFE Authority

all influence the formative versus summative argument in different ways. The effects of each of these factors are considered below.

The role of institutional goals

Miller's (1979) extensive study of the assessment of college performance is based on

> a simple model composed of goals and objectives, the human and material resources needed to achieve these aims, and evaluation to determine progress toward the desired ends. (p. xi)

A number of others of the formative evaluation persuasion, Astin (1974), Clift (1981), Kells (1980), Kowalski-Firestone (1982), use a similar goals-based starting point for working towards institutional improvement.

However, for TAFE Colleges to begin their evaluations from such a base currently presents a challenging problem because most lack goal statements specifying, in reasonably precise terms, what they are attempting to do in education and training, in management, in community relations and in most other areas of their operations. While some colleges do have goal statements they are the exceptions, most approach the question of goals in an ad hoc fashion and make reference to the broad goals of TAFE which have been articulated by the various TAFE Authorities. These broad goals generally do not address the issues in ways that are useful for evaluation purposes.

It is important to appreciate that the goals-based approach does not escape criticism. Sometimes this criticism is low-key and comes in the form of advice on the need for a more qualitative approach to the problem.

> Institutional evaluators should use objective data where available and appropriate but make no apologies for using subjective data (or, it is better to be generally right than precisely wrong). (Miller, 1981, p. 90)

Other writers are more strongly critical and advocate a goal-free approach to evaluation which involves gathering a broad array of actual effects and evaluating the importance of these effects in meeting demonstrated needs.

> The evaluation makes a deliberate attempt to avoid all rhetoric related to program goals; no discussion about goals is held with staff; no program brochures or proposals are read; only the programs outcomes and measureable effects are studied. (Patton, 1980, p. 55-56).

The use of institutional goals in evaluations reflects to a large degree the value orientation of the individuals doing the evaluation. In an Australian TAFE setting with staff involved in the evaluation process a fully blown goal-free approach would not be feasible—college staff work with a set of goals in their heads no matter how poorly articulated or inappropriate these may be.

Problem oriented approaches

Rather than approach the evaluation of an institution from a consideration of its goals or its achievements it is possible to go directly to areas in which it is experiencing problems or seeking to make changes. This approach, which has been used in the United Kingdom, has been described by McMahon (1982). Called the Guidelines for Review and Institution Development (GRIDS), it involves an initial review of a school to identify priority areas for action which then become the focus of staff attention—with outside help as appropriate. GRIDS is a rational problem-solving approach to institutional evaluation which is similar to approaches that have been tried in the United States. Arns and Poland (1980) have described two similar evaluation procedures, one by the University of Vermont and the other by Ohio State University.

More recently, in Australia, Thomson (1983) has described an approach to TAFE college evaluation which requires the identification of domains within a college that are perceived by the staff to be problem areas. Once these 'problem domains' are identified a shift can be made from the broadly based domains to more specific goals. The move from domains to goals is a sensitive operation and one for which alternative strategies need to be considered. It is one thing to agree that the domain of staff development is not what it should be, but quite another to decide what are the goals of staff development that need to be addressed in any in-depth investigation.

The suggestion is for the goal statements to be developed at a series of staff meetings where everybody can take part in the process of articulating what the college should be aiming to do in the various domains. Alternatively, college evaluation teams can choose to make use of prepared sets of goal statements. These procedures are more fully described in Byrne, et al. (1984a) and a comprehensive set of statements is provided in their Handbook (Byrne et al., 1984b).

The use of standard instruments

While a number of prestigious testing organisations have produced instruments for use in institutional evaluation, the value of these instruments is the subject of some debate. Buros (1978) cites numerous reports on the use of Educational Testing Service's, Institutional Goals Inventory (IGI) in the assessment of institutions. Miller (1979) notes that the Institutional Self-Study Service of the American College Testing Program has been in use since 1970.

Pace (1976) and Moos (1979) have reviewed a large number of instruments aimed at aspects of institutional evaluation.

Other authors advocate that the development of instruments should be planned from the beginning by the evaluators. Dressel (1976) puts this point about instruments when stating

> . . . any evaluation is unlikely to be effective unless those involved in the process and in the ultimate decision . . . have a thorough understanding of the instruments (tests, inventories) used and the data collected. Indeed, only those who have attempted to develop evaluation instruments have an understanding of the complexities of defining criteria and collecting evidence. Because such an understanding is a necessity, I am hesitant about suggesting the use of already existing instruments. (p. x)

While one can be very sympathetic to Dressel's view, there are problems with his approach when the situation of the typical Australian TAFE college is taken into account. This is because it seems likely that TAFE college evaluators will be drawn mainly from within the college and it is known that, for most colleges, they will lack experience in carrying out an evaluation. Therefore it can be argued that the provision of instruments as exemplars will lighten the workload of the evaluation team and increase the chances of success. Such an approach has been outlined by Thomson (1983) and examples are provided in Byrne et al. (1984b).

External consultants

External consultants tend to be mandatory for summative studies such as accreditation but only desirable in formative studies such as self-evaluations. External consultants are seen as having the advantages of competence in both the academic area and in evaluation, of having no vested interests, and of lifting the evaluation burden from existing staff. The problems they bring, however, include the fact that their cost can be prohibitive, they may take considerable time to come to grips with the nuances of a particular program, they may lack working relationships with institution personnel, and may be regarded with suspicion by staff. Furthermore, there are the problems of whether an institution chooses to act on the recommendations of a review committee and of internal repercussions which can result from ill-advised remarks or conclusions.

The quality of the external consultant is obviously of prime importance for an evaluation. On reading the reports of some external consultants one could be forgiven for believing that although they came to find out, they left before they were found out.

The role of government reviews

While TAFE may not have done much evaluation at the college level, it has taken a number of long hard looks at itself through the medium of government reviews.

Calls for more information, more reviews and inevitably, more research, permeate all reports into technical and further education in recent years. See for example, TAFE in Australia (1975) [Kangan Report]; Submission to Committee of Inquiry into Post-secondary Education and Training (1977) [Coughlan Report]; Tasmanian Education: Next Decade (1978) [Connell Report]; Education, Training and Employment (1979) [Williams Report]; Education and Change in South Australia (1982) [Keeves Report].

The Williams Report takes a somewhat more formative approach to the problem of making judgments about the outcomes of education than do many other governmental reports.

> An eclectic approach to evaluation is imposed even more strongly by the circumstances of the Australian post-secondary scene. A sensible judgment of the outcomes of education must be related to the specified objectives and tempered by the realisation that some of

> the objectives are embedded in the very processes of education. Because neither the objectives nor the outcomes can be expressed in quantitative terms it is not possible to say that the efficiency of the post-secondary education system or of any sector within it is a particular percentage, or that performance could be improved by a particular percentage if specified actions, at specified costs, were undertaken. (p. 799)

Such a view must be considered against the others referred to earlier (Clark & Birt, 1982; Lindsay, 1982; Sizer, 1979), who would presumably reject the eclectic approach because of their perceptions of the directions government policy is taking as a response to the public's demand for accountability.

TAFE colleges as part of a TAFE Authority

Only a handful of TAFE colleges in Australia are autonomous institutions; the vast majority are part of a centrally administered TAFE Authority. In most cases a whole college evaluation must therefore take into account issues that are beyond the control of the individual college community. However, identifying issues that are beyond control is far from straightforward. The influence of college management on matters that are nominally centrally controlled, though subtle, is often very strong. Any college evaluation must therefore carefully consider the relationship between the college and the TAFE Authority.

The relationship between college and TAFE Authority in effect adds a separate dimension to the evaluation process. Judgments regarding college effectiveness in certain areas may need to be made in terms of both internal and external criteria. Staff development at a college might, for example, be judged poor but, because staff development funds are externally controlled, the remedy which would bring about improvement may be beyond the college's control.

SUMMARY

Irrespective of whether future TAFE college evaluations have a formative or summative emphasis, they will always involve

- identifying or specifying the information required in order to conduct the evaluation;
- obtaining the information;
- using or applying the information.

The literature abounds with warnings about the need for

- careful planning;
- dedicated, even inspired, leadership;
- commitment from the staff involved;
- adequate resources, both human and material.

What is more, the evaluation of any educational institution presents formidable methodological problems. Whole college evaluations are difficult undertakings if for no other reason than they generate enormous amounts of data. Individuals or groups setting out to evaluate the effectiveness of TAFE institutions need to keep these points firmly in mind. As Sarason (1967) has pointed out in his study of change in schools

> . . . to describe and understand a single school, let alone a school system, presents staggering problems for methodology and theory. (p. 229)

This in no way suggests that single college evaluations are of dubious merit but rather points up the uniqueness of each institution. Dressel (1976) makes this point in a similar way when he states:

> No college that I have known well has ever solved a local problem by alterations undertaken to change its position relative to national norms. There is no substitute for thorough local study of all factors and possible impacts of change prior to renovation or innovation. (p. 181)

TAFE colleges are highly complex organisations and each has its own individuality. It follows from this that any attempt to produce a tightly prescribed set of evaluation procedures for the TAFE system would be extremely difficult. No single set of evaluation techniques and instruments will be equally applicable to all TAFE institutions.

Furthermore, the evaluation of institutions can evoke many negative reactions. Romney et al. (1979) have identified four categories of liabilities and disadvantages associated with institutional performance assessment namely:

Political liabilities

Involving balance of power issues inside and outside the college.

Methodological cautions

To do with understanding of the state-of-the-art of performance assessment and evaluation.

Economic concerns

Relating to the potential costs of the effort, especially as they are contrasted with the potential benefits.

Philosophical caveats

Concerning such things as individual and organisational behaviour patterns as well as missions and purposes.

In addition to such warnings to the evaluators there is a requirement for some form of *caveat emptor* for the clients. The need for careful planning and frank dialogue from the earliest stages cannot be overstressed.

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ACCESS TO TAFE FOR DISABLED PERSONS
BY ELAINE WALKER

INTRODUCTION

Most of the major inquiries into post-school education and training in recent years have commented on the low participation rates of various disadvantaged groups including disabled people, and have made recommendations concerning the removal of barriers to entry and the improvement of services. TAFE is the most available form of post-school secondary education in Australia and a major provider of vocational education, but the Kangan Report (1975) commented on the failure of TAFE to provide for handicapped students and made recommendations to improve this.

Other inquiries concerned with services to handicapped people have documented the need for post-school education and vocational training for handicapped persons. (Warnock, 1978; Drummond, 1978; NSW Anti-Discrimination Board, 1979, 1981; NSW Department of Education, 1982). All have commented on the lack of:

- post-school educational services;
- information about incidence and participation;
- information about needs and problems;
- research into and evaluation of intervention and compensatory strategies;
- teachers trained to work with disabled adults.

The lack of hard data presents problems for a reviewer, but those studies that have been undertaken have established that there are unmet needs which TAFE could address. TAFE has begun to explore needs, develop innovatory programs, services and policies for disabled people and there is existing information on very nearly every issue. This review will be concerned with identifying issues, related research and innovatory practices and policies.

DEFINITIONS

The World Health Organisation, defines 'handicap', 'disability' and 'impairment' as follows:

> Impairment—a generic term which embraces any disturbance in normal structure and functioning of the body including systems of mental function.
>
> Disability—is the loss or reduction of functional ability and activity that is consequent upon impairment.
>
> A handicap is the disadvantage that is consequent upon impairment and disability. Handicap represents the social and environmental consequences to the individual stemming from the presence of impairment and disability. (NSW Anti-Discrimination Board, 1981, p. 2)

People differ in the severity of their handicap and the kind of handicap can affect their functioning differently. For the purpose of this review the focus will be on handicap, i.e. the extent to which the impairment and consequent disability is a handicap. The term will not be used in this review to mean all people handicapped in some way, but the following definition suggested by the South Australian Committee on Rights of Persons with Handicaps (1978) will be used:

> A handicapped person is one who as a result of a physical impairment together with community attitudes and the physical environment is substantially limited in his opportunities to enjoy a full and active life. (p. 8)

Accessibility for the disabled is defined as 'characteristics of facilities, programs etc. that allow them to be used by individuals with an impairment'. (Draft Glossary of TAFE Terms, 1983, p. 7)

PHILOSOPHICAL ISSUES RELATED TO ACCESS TO TAFE FOR DISABLED PERSONS

Tindall and Gugerty (1979) point out that vocational education of the disabled is in one sense the revival of a concept as old as vocational education itself: the provision of vocational training designed to meet the needs of the individual student. In another sense, it is a major departure from tradition, because it embraces a philosophy which indicates that all are entitled to

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realistic opportunities to obtain skills needed to achieve dignified employment which leads to an increased sense of self-worth, economic independence, and social esteem.

Vocational educators agree that training for skills leading to employment or to further vocational education should be made available to all who can profit from it. However, as Tindall and Gugerty (1979) point out, in practice, most students are allowed only two alternatives: meet the standard requirements or fail and withdraw from the program. For disabled persons the choice is either to accept the special programs established for 'them' or receive no education. Physical barriers, prejudice, and screening procedures for many educational programs prevent most handicapped people from even enrolling in educational and training programs that are becoming more important in the competition for employment.

The philosophical roots of the opportunities which should be considered are embedded in the principle of normalisation, and the principle of equal opportunity.

Wolfensberger (1972) states that there is no universal agreement on the definition of normalisation, but offers two definitions which to him convey the same message:

(1) 'the implementation of normalisation' means the use of culturally normative means to offer people life conditions at least as good as those of average citizens and to enhance or support their behaviour, appearances, status, or reputati[illegible] of,

(2) normalisation is the utilisation of means which are as culturally normative as possible to establish, enable, or support culturally normative behaviours, appearances, experiences and interpretations.

Administrators and practitioners who support and practise individualised planning and programming in vocational education are in the best position to implement a philosophy of normalisation for disabled persons. Such individualisation would ensure that each disabled student would be placed in an educational setting that was the least restrictive alternative possible to meet his or her vocational training needs.

Some States now have anti-discrimination legislation, which makes discrimination on the grounds of handicap unlawful, e.g. New South Wales.

However, Australia does not have legislation requiring education for handicapped students to be provided in the least restrictive alternative as some other countries have. Nor is there any legislation requirement to provide post-school educational opportunities for school leavers. Some TAFE Authorities have equal opportunity policies for the delivery of services for disadvantaged students, and Mitchell (1981) argues for the development, approval and promulgation of policy statements on education and training for the disabled by TAFE Authorities. However, to date only the NSW Department of TAFE has promulgated policy statements specifically concerned with provisions for disabled students.

CONTEXTUAL ISSUES RELATED TO ACCESS TO TAFE FOR DISABLED PERSONS

Community attitudes to disability

Services for handicapped persons relate to community attitudes toward disability. Disability in the past has been regarded as a stigma and disabled people kept out of society. Disability has also been considered as an illness and medical intervention the required strategy. Disabled people have been thought to be incapable of independent living and personal decision-making and have required guardianship and custodial care. In a paper presented at the OECD International Seminar (1982) Pearl stated that 'Liberal colonialism', that is, knowing what is best for 'poor unfortunates' incapable of acting on their own behalf, has been a prevalent attitude. Today, community attitudes to disadvantage are gradually changing and focus not only on the disadvantage but see disadvantaged people as people with the same needs, rights and abilities as other people. The type of services provided relate to community attitudes rather than to 'Liberal colonialism' which tended to produce segregated development. Emphasis on equal opportunity tends to promote use of regular services.

Open or sheltered employment vs. adult life without work

Disabled people have had problems in obtaining open employment not only because of their particular disability which may prevent them from carrying out particular jobs but because of community attitudes (NSW Anti-Discrimination Board, 1979, 1981). However, research has shown many disabled people make good employees despite their handicap (Pati, 1978). For other disabled people the option of sheltered employment is chosen. This may be because of the severity of the handicap, difficulties of obtaining jobs in open employment or lack of opportunities and/or training for open employment. Bellamy, and Nettleback, in papers presented at the OECD Australian Seminar on Disabled Young People (1982), have shown severely handicapped people given the right training can learn complex vocational skills for employment. There are however a group for whom employment is not an option either because of their limited capacities, possible short life span, or choice. A continuing recession causing high unemployment in western countries may increase the numbers of those adults, both disabled and non-disabled, whose life is without work. Education for leisure or self-employment may become more important.

Medical vs. educational model for intervention

For many handicaps, medical intervention with medical treatment, nursing and therapeutic services is currently the dominant service. In the medical model, intervention is directed to treating the disability and its symptoms. In the educational model, the person's abilities are enhanced by additional training. The Warnock Committee (1978) recommended a change from medically orientated categorisation and labelling of handicaps and disabilities to a more sophisticated multi-professional assessment of individual needs.

Multiplicity of service providers

Some services are offered by the Departments of Health, Social Security or hospitals under a medical model. Rehabilitation schemes are offered to clients of various categories. The criteria for eligibility are usually unrelated to educational needs, e.g. receipt of sickness benefits, invalid pension, institutionalised, suitable for open employment following retraining, etc. Other services are offered by voluntary, community or educational institutions and are related to the goals of those organisations, e.g. adult literacy, riding for disabled. Provisions with a multiplicity of service providers result in some duplication of services, some omissions, and no overview. An OECD Conference (1982) commented on the 'competition' for clients for services resulting in underutilisation. Yet, for many, relevant services are hard to find or unobtainable and the continuation of the service is uncertain.

Type and severity of handicap

The intervention and type of educational service needed varies with the nature and severity of the handicap. Hearing impaired and visually impaired students need special communication procedures. Physically handicapped students need assistance with mobility and manual dexterity. Intellectually handicapped students need special programs to suit their different learning needs. Attitudinal problems are also important. Where vocational education for open employment is given a high priority, intellectually and severely handicapped students face greater prejudice as they are assessed as unlikely to be successful in open employment.

Role of TAFE with respect to other government and non-government agencies

TAFE may provide a comprehensive post-school educational service or complement the service provided by other agencies or Departments, e.g provide specially prepared programs of vocational or non-vocational education in sheltered workshops, or activity therapy centres, Health or Welfare Department institutions. The policy decision taken and level of resources will determine the nature and extent of TAFE programs and services.

Priority given to provision for the handicapped in TAFE

Equal opportunity for the handicapped will be more costly per handicapped student than for a non-handicapped student when additional special services are required. The cost will increase with the severity of the handicap. If low priority is given to establishing special services among other claims, e.g. women, Aborigines, unemployed youth, apprentices, etc., provision of equal opportunity for the handicapped will be minimal.

EDUCATIONAL ISSUES RELATED TO SERVICE PROVISION

Integration in mainstream programs vs. special segregated programs

Integration in mainstream programs is favoured by proponents of normalisation. However, in practice it can mean a number of things. It may mean locational integration in which special and regular classes have the same physical environment but operate separately, e.g. special schools and regular schools on the same site. A further variant is social integration whereby students in special classes at regular schools share out-of-classroom activities but in-classroom activities are separate. Functional integration occurs where handicapped students join regular classes part-time or full-time. Policies of integration can be implemented in a number of ways. Firstly, handicapped students can be treated like any other students with no special services and allowed to enrol in any class. Secondly, they can enrol in any class but receive special support services, e.g. tutorial assistance, modification of assessment procedures, etc. Thirdly, the special programs and services for handicapped can be provided in regular colleges with appropriate facilities. The first strategy provides for minor handicaps, the second extends services to moderately handicapped, and the third allows provision for the more severely handicapped.

If special TAFE colleges for various disabilities were established, access for disabled students would be limited both geographically and in the range of courses offered. The number of disabled students in the same stage of the same course with the same disability will always be low because of the low prevalence of some handicaps. In order to provide choice of course and location, integration is an essential strategy. However, integration without special services to enable disabled students to benefit from instruction impedes access to all except those who have overcome their disability.

Consideration needs to be given not only to the provision of special services but to the range of educational experiences provided by TAFE. Many regular students are alienated by school as studies of school retention rates show and disabled people cannot be integrated into an education system which rejects large percentages of 'normal' people.

Continuing comprehensive education vs. specialist non-vocational or vocational education

Compulsory education up to the school leaving age tends to provide programs for the 'whole of life' needs of the students, i.e. recreational, personal development, communication as well as cognitive skill development. Post-compulsory education in TAFE colleges tends to be more specialised providing for specialist vocational training or non-vocational education in specified areas. Many handicapped people particularly the intellectually and severely handicapped need continuing comprehensive education (NSW Anti-Discrimination Board, 1979, 1981; NSW Department of Education, 1982).

If a decision is taken that TAFE provide a comprehensive post-school or continuing education service to meet the educational needs of handicapped people for full personal development, it will require TAFE to provide educational services it does not traditionally provide to regular students. If TAFE limits its educational service for the handicapped to the range of programs offered now for the community, this will require less resources. The former would require establishing programs in content areas which are not now part of TAFE and hiring teachers and curriculum developers with expertise in these areas. Special accommodation and facilities would have to be provided and additional accommodation made available for the extensive programs required.

Work preparation vs. supplementary training

Work preparation programs tend to be offered as full-time training and involve education in social skills as well as vocational skills. Granville Work Preparation Centre has found that social skill training when offered in conjunction with vocational training increases the handicapped person's chances of gaining and remaining in open employment (Hauritz, 1979). However, the majority of TAFE programs have been developed to provide part-time education supplementing work skills of students in employment. This strategy is less suited to students trying to overcome employers' negative attitudes and trying to gain employment.

Transition from school to adult life

Most TAFE programs are based on the assumption of an adult life with work. It is also assumed that self-care skills necessary for independent adult living have been acquired by adult life. This is not always true for handicapped people. Educational programs need to be offered, both in content and by process, to increase independence and to allow choice of life-style according to disability, needs, and wishes (NSW Anti-Discrimination Board, 1979, 1981). This process has to be more gradual for disabled people, with sufficient support in the early stages to build confidence and enable the person to explore vocational and non-vocational education suited to their abilities. Link programs for disabled school pupils have been very effective here (Commonwealth Schools Commission, 1980; Taylor, 1978). Support however may need to continue in special programs in TAFE to enable successful transition to an adult mode of learning.

ISSUES RELATED TO SERVICE DELIVERY

Physical accessibility of colleges

To enable physically handicapped students to attend regular TAFE classes, TAFE colleges must be accessible. Level access and access to upper floors need to be provided as well as special toilet facilities and enough space in classrooms, laboratories and workshops for wheelchairs. Special equipment to operate machines and suitable desk and bench heights are also important. Many TAFE colleges are not physically accessible as reports from New South Wales, South Australia and Western Australia indicate (Buchanan, et al., 1981; SA Department of Further Education, 1980; & Whitmore, 1981). Special equipment for visually impaired students is also required to make print accessible (Kangan & Smith, 1977). New TAFE colleges which are Commonwealth-funded are required to be wheelchair accessible. However, many old buildings still need renovation as surveys in New South Wales, Western Australia and South Australia have indicated. If funds are not available to upgrade all of these, priorities will have to be set. The strategies chosen need to fit the circumstances. Alternatives include:

- several colleges designated for physically disabled students and made completely accessible;
- building an accessible suite of classrooms in each college and relocating classes;
- ensuring all courses offered at only one location are accessible.

Off-campus programs

External studies programs can provide a means for non-vocational and vocational education for disabled people. Programs can also be offered by TAFE teachers in locations to suit a group of disabled people (Alexander, 1981; Broomhall, 1981; Johnstone et al., 1981). These strategies can improve access to TAFE and provide a valuable service. However, the range of programs available is limited. Courses which require hands-on experience with expensive high technology equipment are not easily made available off-campus. Social skills training often needed by disabled students requires interpersonal interaction.

Many disabled students cannot learn from traditional correspondence courses. Frequent absences from school, or hearing impairment or intellectual disability may cause disabled students to have low literacy and numeracy levels. Audio-visual, self-instructional materials may be necessary together with special tutorial assistance. Visually impaired students may require material to be presented orally.

These are valuable strategies and should be improved to meet the needs of disabled students. However, they do not assist normalisation or integration and as the sole means of access to TAFE for disabled would not on their own achieve equal opportunity.

Communication

Hearing impaired students have communication problems both in the oral and written mode. Particular attention needs to be given to assisting the communication process for hearing impaired students. The language used in lesson notes, texts, and in examination questions may need to be simplified, and additional tutorial assistance, use of signs, interpretation, and training for the teacher in special communication skills for the hearing impaired will be necessary, depending on the degree of handicap (Byers, 1982; Kangan & Smith, 1977).

Information

Information on TAFE programs and services needs to be as widely available as possible to enable career choice and suitable course and college options to be accessed. Guidance and counselling is particularly important (Kangan & Smith, 1977). Disabled people often tend to be less confident of their abilities and may need to overcome barriers of low self-esteem and fear or rejection. Efforts will need to be made by the TAFE college to build confidence and take the information to the handicapped student in such a way that it will be utilised. Outreach programs, link courses and orientation programs have been successful in overcoming barriers and building confidence (Alexander, 1981; Broomhall, 1981; Commonwealth Schools Commission, 1980; Johnstone et al., 1981; Taylor, 1978). Careers markets and special leaflets have also been useful.

Admission, selection, and assessment procedures

The existing procedures can be discriminatory. Students with a physical disability may not be able to fill in enrolment forms. Formally stated entrance requirements may not have been obtained because of disrupted schooling. Procedures for concessional entrance or granting of equivalence should be considered. Selection or assessment tests may require the students to exhibit their skills in a manner their disability prevents. Alternative communication methods may have to be found, e.g. an oral examination substituted for a written one, use of typewriter, tape recorder or amanuensis, large print exam papers, use of sign language interpreters, etc. (Buchanan et al., 1981). To facilitate these procedures, TAFE in NSW has developed a policy for admission, assessment, selection and course modification for physically disabled students.

Curriculum

Modification of curricula is necessary for many disabled students. Some disabled students may be able to do most but not all of a specified course because of their physical disability. Flexible course structures need to be considered to enable disabled students to qualify for certification (Buchanan et al., 1981). Alternative or modified curricula with appropriate goals and teaching processes need to be developed for some handicapped students, e.g. intellectually handicapped (Byers & Hocking, 1979; Commonwealth Schools Commission, 1980; Hauritz, 1979; OECD/CERI, 1982; SA Department of Further Education, 1979).

Class size

Disabled students have different needs and problems to non-disabled students. As teachers have to spend more time assessing the students' abilities, planning programs which take this into account, and conducting the program, a reduced class size is necessary both for safety and efficiency (Buchanan, et al., 1981; NSW Department of Education, 1982).

Teachers

Mainstreaming of disabled students in regular TAFE classes means TAFE teachers will be providing the course delivery. Most TAFE teachers do not have expertise in special education and have indicated the need for training and support to provide service to disabled students (Buchanan et al., 1981; Ward et al., 1978). An alternative strategy would be the use of special education teachers for disabled students. However, these teachers do not have content expertise in the wide range of vocational and non-vocational educational skills taught in TAFE and this could limit options for disabled students. Resource teachers with special educational expertise can assist TAFE teachers with disabled students and improve course delivery for the student. Special education teachers will be required to cover special content, e.g. language development for hearing impaired students; using the optacon for visually impaired students. Consideration should also be given to training a pool of TAFE teachers in special education to improve service delivery in particular content areas with consistent enrolment of disabled students, e.g. home science. Specialised preparation is not available in all fields in all States for teaching disabled students (OECD/CERI, 1982). An inquiry in New South Wales noted no teacher education courses were available to prepare teachers working with disabled adults. Priority will need to be given to teacher education if service delivery is to be adequate.

Support to teachers

A number of programs have run successfully with multi-disciplinary teams, i.e. TAFE teachers, social workers, psychologists, special educators, therapists, e.g. Granville Work Preparation Centre, Krongold Centre for Special Education. Other programs have run with a minimum of support. However, the NSW survey (Buchanan et al., 1981) indicates teachers express a need for specialist advice for assessment of student needs and planning programs. Many TAFE colleges now have counselling services but few counsellors have expertise in the assessment of disabled people.

There are now resource teachers in TAFE Authorities in some States but the number of these compared with the provision for secondary schools is minimal (NSW Department of Education, 1982).

Educational and student services

Support services for students and teachers have been established in TAFE, e.g. student counselling, libraries, student amenities, course information officers, curriculum developers, teaching and learning resource developers, building controllers and planners, safety officers. All these provide a specialist service which enhances the role of TAFE. Many of these services are becoming aware of the special needs of disabled students, and within these services there is some movement towards establishing expertise to service needs in this specialist area. New South Wales has a specialist curriculum development group, the Special Groups Unit. South Australia has seconded a specialist officer to the Curriculum Operations Group. There is evidence to show the beneficial effect of special assessment, counselling, appropriate curriculum and teaching resources (NSW Department of Education, 1982; Warnock, 1978). However, there are insufficient specialist services to provide uniform quality for the number of disabled students who could and would wish to benefit from appropriate programs.

Special ancillary services for disabled students

Special ancillary services provided at primary and secondary level for disabled students include special transport, ancillary staff to assist with toileting and feeding, and therapy. TAFE at present provides none of these services.

Co-ordination of TAFE Services

The disabled person may require specialist support services provided by other agencies, e.g. specialised accommodation, job placement, mobility training, etc. To facilitate the availability of services as needed, the Warnock Report (1978) recommends 'a named person' to whom the disabled person may go for advice. Within New South Wales TAFE, Consultants for Disabled act as 'named persons' for TAFE students and can make contact with other agencies to obtain and co-ordinate services. However, the number and location of consultants does not enable an effective 'named person' to be available for all TAFE disabled students.

Attitude of non-disabled students

Disabled students will always be a minority in a TAFE college. Any strategy to assist disabled students must take into account attitudes of and effects on non-disabled students. If the strategy of integration was detrimental to non-disabled students it is questionable if it should be followed. However, the evidence suggests that it is beneficial to both, not only cognitively but socially (OECD/CERI, 1979).

Planning and co-ordination of services

TAFE services for the disabled have tended to develop on a local basis, one college in response to a local community organisation, one college in response to an individual. Planned co-ordinated services promoting continuity of programs despite personnel changes, and a Statewide service do not exist in most States. Recent reviews of services by States acknowledge successful one-off programs but point to gaps in services (Buchanan et al., 1981; SA Department of Further Education, 1979, 1980). Increased planning and co-ordination of services is recommended to enable effective programs to be offered in many locations according to the needs of disabled people.

CONCLUSIONS

TAFE has an expanding educational role but resources are limited. TAFEC reports have described the resource backlog which must be overcome to enable TAFE to fulfil its traditional role as a provider of vocational education. Yet TAFE is also being asked to provide special programs with very little increase in resource provision, for unemployed youth, retrenched workers, Aborigines, women, and disabled people.

Interest in TAFE as a provider of non-vocational and vocational education for disabled students has increased significantly in the last decade.

However, surveys and inquiries reveal many deficiencies exist. It is apparent that services for continuing and tertiary education for disabled students are minimal compared with existing provisions for compulsory school age disabled students. Yet current enquiries reveal even the latter to be deficient (NSW Department of Education, 1982). Any increase in level of service for compulsory school age children will result in demand for increased service provision beyond school age. It is apparent that increased resources are needed if TAFE is to play a significant role as a post-school educator for disabled people.

National sharing of information, curriculum development, and resource development will help maximise the usage of scarce specialist resources. Increased evaluation of services and programs is also necessary to assure quality of provision.

Research is also needed to test assumptions, as research evidence available today suggests many previously held attitudes were based on false assumptions; e.g. handicapped people are unemployable, therefore do not need vocational training.

The potential of disabled people has been demonstrated by a considerable number of studies and disabled people and their advocates have become more aware and vocal. Existing anti-discrimination legislation particularly legislates against discrimination in educational services. TAFE will continue to be faced with the challenge of providing quality education to meet the needs of disabled people in the future. Action will be needed to resolve the issues raised in this review.

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THE TAFE TRANSITION PROGRAM

BY GREG WOODBURNE

INTRODUCTION

One of the most interesting and important of the developments in TAFE in the post-Kangan period was the introduction of the TAFE Transition Program under the sponsorship of the Commonwealth Government. The review that follows examines briefly the setting from which the Program arose, the development of policy, the growth and development of the Program, administrative arrangements for the Program, the effectiveness of courses within the Program and some key issues raised by the Program.

For the purposes of this review, distinctions are made among the following commonly used terms: transition, transition education, the TAFE Transition Program, and transition courses.

> TRANSITION is the total process through which young people pass from childhood dependence to adult independence.
>
> TRANSITION EDUCATION was that part of the process provided by the education system to assist young people in their transition.
>
> THE TAFE TRANSITION PROGRAM was the response of TAFE to those initiatives in transition education funded by the Commonwealth.
>
> TRANSITION COURSES were the courses developed within the Transition Program.

THE SETTING

From the end of World War II to the 1970s there was little interest in and concern for the process by which young people moved from school into the workforce. This lack of attention reflected an awareness of the general ease with which most young people were able to obtain their first jobs, and change those jobs and their careers a number of times if they found their initial choices uncongenial.

The post-school education system played a role in this movement toward adulthood, but only for a minority of young people. TAFE played its part in this process through the few full-time courses that it offered, but more importantly through its part-time courses which enabled the young to both learn and earn as they pursued their careers. As long as the early job market remained healthy, the post-school education system could confine itself to preparing for employment those young people whose occupational choices demanded substantial training and education.

Beneath the untroubled surface in this period, forces of change were at work. In broad terms the role of unskilled workers was declining as the rate of structural, social, and technological changes gathered pace. At the same time, however, the standard of general education was rising, post-school education participation rates were increasing and together with selective immigration it was possible on the whole to meet the demand for a more sophisticated workforce while at the same time finding employment for most of those who wanted work. Despite the changes that were occurring, the combination of the school system, the post-school system and the early job market were working satisfactorily to make the transition from school to work smooth for the great majority of young people.

This sense of satisfaction was shattered in the 1970s when the unemployment rate rose sharply after thirty years in which it had averaged 1.9 percent within a range of 1.1 to 3.2 percent. What was particularly startling was the rapid growth in youth unemployment. By 1979, 17.0 percent of 15-19 year olds were unemployed as were 9.3 percent of 20-24 year olds. If one looked at the long-term unemployed, Australia had at this time a far greater proportion of adolescents, 35.8 percent of total long term unemployed, than most other OECD countries (OECD, 1980). Faced with this problem, the Commonwealth Government decided to intervene in the transition process. It was this intervention that was to bring TAFE into a whole new field of educational endeavour.

THE POLICY

The accelerating rate of unemployment, and in particular, youth unemployment, was the spur which caused the Commonwealth Government to react. To understand the policy that flowed from this reaction, we must grasp the decisions arrived at by successive Commonwealth Governments.

From the perspective of the 1980s, the diagnosis of the problem seems simple: there are not enough jobs to go around. This was the point of view taken by the Whitlam Government. A point of view which led to job creation schemes, particularly in the public sector. With the discrediting of that Government came the discrediting of this diagnosis and the discrediting of job creation as an acceptable strategy.

The diagnosis accepted by the Fraser Government was that a major cause of the problem lay not in the lack of jobs, but in the mismatch of the skills of job seekers with the jobs available or potentially available. If the Commonwealth were to intervene successfully, therefore, it would need to intervene in the education system as well as the labour market.

The broad thinking that underlay the policy was spelt out in an address on 4 October 1979 to the National Press Club by the Commonwealth Minister for Employment and Youth Affairs:

> The basic philosophy behind the thinking is that young people in the 15-19 years age group should have a comprehensive range of education, training and employment options available to them which makes unemployment, in the sense of idleness at the community's expense, an unacceptable alternative. Young people should not enter the labour market until they are properly equipped to enter employment or are able to obtain employment.

This philosophy was expressed in a more developed manner by the Australian Education Council when it stated in a press release in October 1979:

> The Australian Education Council, meeting in Perth, endorsed the need for a comprehensive policy on transition from school to work. This should be developed and put into effect through co-operation among the States, the Northern Territory and the Commonwealth.
>
> The aim of the comprehensive policy should be ultimately to provide all young people in the 15-19 age group with options in education, training and employment, or any combination of these, either part-time or full-time, so that unemployment becomes the least acceptable alternative.

> The Council recognises that a comprehensive policy will need to encompass a rationalisation of existing benefit schemes and incentives to young people and to industry in order to ensure that they are mutually consistent and do not provide disincentives to participation in education and training.

This concept was expanded even further in a major policy statement by the Commonwealth Minister for Education on 22 November 1979:

> The problems of transition are not, I stress, an area for government action only. A comprehensive approach to the problems requires the intense understanding and support of the whole community. Teachers have an obvious and crucial part to play. Parents need to encourage and support their children and to be interested and involved in the vital work of the school and the decisions made by authorities affecting their children. To a large extent the motivations and attitudes of young people are affected by the expectations their parents have of them and the encouragement they receive at home. Employers should develop closer links with education systems, particularly at the local school level, in the interests of, on the one hand, schools understanding better the requirements of the workplace and, on the other hand, of employers appreciating more clearly the education process and the difficulties faced by young people and their teachers in preparing adequately for the complex requirements of life and work in the eighties and nineties. Organisations of employers should lend their support and participate in the working out of the new arrangements.

From the point of view of TAFE, the key concern was to be how this evolving policy was to be implemented through the initiatives that were to be funded by the Commonwealth Government.

THE PROGRAM

From the very first policy statement, TAFE and the schools were seen as the key implementing agencies (though not the sole agencies). This was made clear in the first list of initiatives produced by the Commonwealth Government.

Developments likely to occur in 1980 with support from the Commonwealth's provision of an additional $25 million include:

- Expansion and development of transition courses in TAFE institutions, including pre-apprenticeship, pre-vocational and pre-employment courses. These would be full-time courses up to one year in duration to prepare young people for vocations, particularly in the trades and technical occupations where shortages of skilled workers still exist.

- Expansion of the number of places available in the Education Program for Unemployed Youth (EPUY). It is expected that an additional 7,000 places could become available in these TAFE courses in 1980 with substantial further increases in later years.

- Development of improved services and techniques for identifying potential early school leavers.

- Expansion of school counsellor, vocational education and guidance services to provide more intensive and comprehensive assistance for students at risk and their parents.

- Development of alternative courses in schools for potential early leavers.

- Establishment of after-school and vacation programs of vocational education and counselling.

- Development of 'link' courses involving students' participation in programs combining elements of secondary and TAFE courses.

- Teacher development programs. In-service courses and re-orientation programs to fit numbers of teachers for their roles in the development and implementation of alternative courses and identification and counselling of 'at risk' students.

- Community education projects to include increasing employers' and parents' understanding of school activities and programs to increase teachers' awareness of specific employment requirements for new employees. (Ministerial Statement, November, 1979).

The Commonwealth had thus nominated the kinds of activities it saw as appropriate to implement the policy. It then nominated the target group at which these initiatives were aimed.

> Our primary concern is the 50,000 young people who now leave school each year with poor employment prospects. We wish to provide appropriate education and training courses for them and also tackle the problem of those in the schools who are likely to be in similar difficulties when it comes their turn to leave.

It should be emphasised that though the Transition Policy was meant to cover all school students, the programs that flowed from this policy were to be provided for that target group, i.e., those who were most likely to become unemployed. This group was seen as being deficient in some way: in general education, in job seeking skills, in job skills or in a combination of these. It was these deficiencies that had to be corrected.

The role of TAFE in implementing the Transition Policy was to be made clearer when the guidelines for the TAFE component of this Transition Program were spelt out; indeed it was the guidelines that were to give the specific direction to the TAFE share of the Program.

The guidelines for TAFE at no point stated that participants in the Program should be unemployed; however, the guidelines also stated that preference should be given to the unemployed, that the Commonwealth Employment Service (CES) should be the primary source of referrals and that to qualify for the transition allowance, program participants needed to have been unemployed for four months and to have been away from full-time education for four months in the previous twelve. What this ensured then was that for TAFE the Program was not concerned with the transition from 'School to Work' but the transition from 'Unemployment to College to Work'. Such a program assumes that most graduates of the Program would find jobs as they re-entered the workforce. This assumption of course reflected the initial analysis of the Fraser Government that a major cause of the youth unemployment problem lay in the lack of appropriate skills of young people. The Program, therefore, would give participants on completion the appropriate skills to obtain jobs. It was this viewpoint that was to become of increasing concern to TAFE staff as the job market for young people continued to deteriorate as the Program expanded.

THE COURSES

A course sponsored by the Commonwealth Government for the young unemployed had existed since 1977. This course, Educational Program for Unemployed Youth (EPUY), in many ways epitomised the view of the Fraser Government towards the TAFE Transition Program. The target group was those young people with a history of significant unemployment who exhibited, in the eyes of the CES, major weaknesses in their general education, job seeking skills and self-confidence. If TAFE could 'smarten them up', then the CES could find them jobs.

EPUY of all the courses within the Transition Program was to be the one that provoked most debate over its role and effectiveness. It was seen by many TAFE teachers as being outside the TAFE mainstream, as being no more than expensive child minding, and as being an administrative burden. The close contact that it brought with the CES raised not only administrative issues, but also educational issues such as whose right was it to select students. The use of contract staff in the course was seen by some as an attack on working conditions of TAFE teachers. The ideological split among teachers on the course over the aims of the course raised problems over determining criteria for judging the effectiveness of the course, a difficulty deepened by the methodological problems in evaluating employment success of graduates if that was accepted as a criterion for success.

Despite all of these problems, EPUY was to prove one of the most interesting courses that TAFE has produced. The aura of indecision about the aims of the course, the special nature of the student body, the range of teachers who worked in the course and the fact that EPUY did not fit neatly into existing TAFE administrative arrangements were to lead to a plethora of innovation and experimentation in course design, teaching and administration.

This experience was to be of great assistance when the full Transition Program was introduced in 1980.

Under that Program which was announced in November 1979, the Commonwealth was to fund TAFE for three categories of courses:

(1) EPUY

(2) Pre-employment (non-trade)

(3) Pre-apprentice and pre-vocational (trade based).

Using Commonwealth funds, TAFE was asked to develop transition courses within these categories. The courses were meant to form a package covering a variety of potential job opportunities at both the skilled and operative levels. As can be seen from the 1981 guidelines:

> 22. TAFE proposals should make provision for young people with a wide range of needs. They should provide for practical skills training and work related education, where possible in a vocationally relevant environment. Accordingly the following types of proposals may be considered:
>
> (i) Proposals for courses similar to those conducted under the Education Program for Unemployed Youth.
>
> (ii) Proposals which provide individuals with an improved capacity for making vocational choices without the commitment involved in occupation-specific courses. For this group of students, courses providing vocational education relevant to a range of occupations or a group of industries are favoured.
>
> (iii) Proposals likely to enhance specific vocational development and employability of participants, having regard to such factors as likely job opportunities and course location. Training for specific job vacancies with employers (possibly eligible for support under the National Employment Assistance Training Scheme) are not appropriate for inclusion.
>
> (iv) Pre-apprenticeship and pre-vocational courses in the apprenticeable trades. TAFE authorities would be expected to consult with industry and other appropriate agencies on the skill content of courses and the acceptability of successful trainees, and would be expected, wherever practicable, to secure credits for students in respect of these courses towards any subsequent apprenticeship for both exemption from technical education and reduction in the apprenticeship term.

> 23. In the development of TAFE proposals the authority should maintain a balance between the various types of courses so that the whole spectrum of needs, backgrounds, abilities and educational achievements of the target group is provided for.
>
> 24. Courses should normally be provided on a full-time basis but curricula incorporating periods of on-the-job experience would not be excluded. Courses may vary in length but should usually be of at least one term or semester duration.

These guidelines were to create a number of problems; firstly, guideline 22 (iii) suggests that courses should be created to meet labour shortages, but that they should not be designed to meet the needs of specific employers. In those locations where there were few major employers and job vacancies, this distinction was to prove restrictive and confusing. Secondly, there was no clear procedure suggested for testing the relevance of course proposals to the needs of the labour market. Thirdly, the apparent opportunity to create part-time courses under the guidelines did not exist as the guidelines were in practice subordinated to the regulations concerning the employment of students and the payment of allowances.

Another feature of the guidelines was the provision that special attention should be paid to the needs of disadvantaged groups:

> Having regard to their special difficulties in the transition process, the needs of girls and young women should be adequately provided for in proposals.
>
> The needs of disadvantaged groups, for example, migrants, Aboriginals, the isolated, the handicapped, should be given particular attention in the proposals.

This gave the Program an element of positive discrimination for which the critics of the Program often failed to give the Commonwealth Government due credit.

ADMINISTRATION

An outstanding feature of the Program as it developed was the way in which its administration drew together State and Commonwealth Departments at the National and State levels, and colleges and CES offices at the local level. In addition, the search for relevant courses was to lead TAFE into even closer contact with local industry and with industries with which TAFE had had little contact through its traditional courses.

The emphasis on meeting local needs was to give college staff increased opportunities in developing courses and in creating new management structures.

An important problem for TAFE administrators in creating a management structure and employing extra staff to run and deliver the courses was the initial five years limit placed on the funding of the Program. The Commonwealth was asking the States to set up a major program, the funding of which could either disappear at the end of the period or would have to be replaced by major contributions from the States. Though the Commonwealth Government committed itself to providing $150 million for the five year period (covering both the TAFE and the Schools Programs), approvals of courses were to be on an annual basis.

STUDENT ALLOWANCES

From the beginning, the Commonwealth Government realised that some incentive would be needed to persuade at least some of the unemployed that they should enter the Program. A Transition Allowance of $6 a week on top of the unemployment benefit was introduced, therefore, in 1981. To be eligible for the allowance the student had to be:

- 15-19 years old (15-24 if in an EPUY course)
- unemployed
- away from full-time education for four of the last twelve months,
- registered with the CES as unemployed.

Two understandable but incorrect assumptions could be made from this: firstly, that all students in courses funded by the Commonwealth Government under the Program would be receiving the allowance; and secondly, that all students receiving the allowance would be in Commonwealth funded courses. In fact, about 15 percent of students in Commonwealth funded courses did not receive the allowance, and a number of students receiving the allowance were in State funded courses rather than Commonwealth funded courses.

PROGRAM GROWTH

The strong growth of the Program can be seen in Table 1.

TABLE 1

COMMONWEALTH-FUNDED TAFE TRANSITION PROGRAM 1980-1983[1]

	1980	1981	1982	1983
Number of place approved				
EPUY	5,550(est)[2]	5,500(est)[2]	5,600	5,988
Pre-employment) Pre-vocational) (trades-based))	2,737	4,355	6,031	8,781
Pre-apprenticeship	170	411	326	388
Total	8,457(est)	10,266(est)	11,957	15,157
Number of courses approved				
EPUY	275(est)[2]	275(est)[2]	295	345
Pre-employment) Pre-vocational) (trades-based))	104	213	324	463
Pre-apprenticeship	9	21	20	23
Total	388(est)	509(est)	639	831

(1) Approved arrangements at the start of the year. Source: DEIR, 14 Feb 1983.

(2) Includes EPUY courses which were not funded under the Transition Program.

On observing the strong growth of the Program one can get a distorted view of its importance in the total package of employment initiatives funded by the Commonwealth Government. In terms of individuals affected, the Special Youth Employment Training Program together with a range of smaller placement programs were in 1982-3 reaching five times more individuals than was the Transition Program; in addition, the Community Youth Support Scheme catered for some 60,000 participants in 1981-2.

In considering the extent to which the Program was penetrating the unemployed population and particularly the long-term unemployed, it can be seen in Table 2 that it has provided opportunities for only a small proportion of those for whom it could have been judged to be of assistance.

TABLE 2

COMMENCEMENTS FOR PROGRAM ASSISTANCE DURING 1980-81 AS RATIOS OF LONGER-TERM UNEMPLOYED (17 WEEKS OR MORE) FOR A SIMILAR PERIOD[a]

			Age groups -		25 years or more	
	15-19 yrs		20-24 yrs			
	Male	Female	Male	Female	Male	Female
Education-based	0.079	0.059	0.013	0.022	0.004	0.004
Employment-based	0.454	0.373	0.159	0.131	0.037	0.022
Specialised	0.045	0.024	0.018	0.011	0.013	0.004
Total	0.578	0.456	0.190	0.164	0.055	0.031

(a) Source of labour data: Department of Employment and Industrial Relations and unpublished data from ABS Labour Force Experience Survey 1981—includes only those reporting 17 weeks or more unemployment during the 12 months prior to survey.

(b) Source of table: Hay and Lampe (1982).

PROGRAM EFFECTIVENESS

It has already been noted that there was considerable discussion as to the aims of EPUY courses with the most dissent being over whether or not EPUY should concern itself with equipping its students for specific jobs. In some places of high long-term youth unemployment, teachers were adamant that their concern should be with teaching the students to cope with continued unemployment rather than wasting time giving them sub-skills they might never use.

This same argument concerned many teachers and administrators of the other courses in the Program. The argument was put strongly by them that judging the effectiveness of the courses in terms of employment outcomes was not only unrealistic, but also inappropriate in that such judgments overshadowed the other positive outcomes of the courses.

Further strength was added to the argument against taking too much notice of employment outcomes by noting that the more successful the Program was in reaching the long-term unemployed and including members of disadvantaged groups, the lower the likelihood of employment for Program graduates.

Against these propositions, however, it must be argued that for the majority of young people who entered courses the main motivation was wanting to get a job. Moreover, most teachers in the Program agreed that this was the main motivation for enrolment of their students (Davis & Woodburne, 1983).

Apart from the argument whether or not employment was a valid criterion for evaluating the success of courses in the Program, evaluators were faced with the methodological problem of finding a standard against which to judge employment success. Clearly as the students were a select group, to judge their employment success against general levels of unemployment was misleading.

Most TAFE Departments' evaluations of their courses within the Program have simply recorded the proportion of graduates who obtained jobs without attempting to judge how successful were these results. Two important studies, Hubbert (1980) and Harrison and O'Neil (1982) judged the employment success of the courses they looked at as dismal, but they both failed to judge the success of graduates against any really comparable group.

Davis and Woodburne (1983) produced the first study of comparative employment success. In summary, their findings on employment success were that:

1. When all the variables available are considered, the courses did help participants get jobs.

2. Many other factors apart from course participation determine employment, e.g., length of previous unemployment and the local labour market.

3. The proportion of course participants who did not get jobs within seven to nine months of completion of the course was very high (67 percent of the target population of the study).

In their study, they surveyed teachers in EPUY, Trade Level and Non-Trade Level courses as to their perceptions of the importance of other course objectives for the courses they taught. They found that a fairly common and relatively high ranking was given by all teachers of each of the course types to the strengthening of work and social attitudes and to some provision of general job skills; however, teachers of EPUY ranked improvement of literacy and numeracy skills and provision of social contacts significantly higher than did the teachers of the other courses.

While it is important, therefore, to evaluate the employment outcomes of the courses, this should not be done in isolation from the range of other positive benefits that both students and teachers saw as important and as being realised.

SOME KEY ISSUES

Program scope

As indicated earlier, the penetration by the Program of the ranks of unemployed youth, particularly young adults, was very limited. This limitation sprang firstly from the constraints imposed by the funds available. This limitation, however, reflected the Commonwealth Government view that the Program was only one of a variety of strategies for implementing its transition policy.

In support of the Commonwealth Government position, it should be emphasised that education in the short term can have only a minor influence on employment. From a longer perspective, education may help create demand for labour and improve the quality of labour supply, but in the short-term the only jobs it could create would be those needed to service any courses created under such programs as the TAFE Transition Program. Unfortunately, this less grandiose view of the Program was often overshadowed by the rhetoric of selling the Program both to participants and to teachers.

What has also often been lost sight of in the debate over the role of the Program is the considerable input that TAFE made to the transition process through its array of State funded courses. Indeed, one of the interesting aspects of the total TAFE contribution to transition was that the same courses could be in both 'Programs' depending on the time at which it commenced. New South Wales, for example, made a major effort in expanding its pre-apprenticeship and full-time secretarial courses just prior to the commencement of the Commonwealth Program. It was to be funded, however, only for the additional places created in these courses after the commencement of the Program.

If TAFE was seen as only one of a group of partners in the transition process, the others being the home, the school, the other post-school institutions and the early job market, it can be seen that the TAFE Transition Program must inevitably have been limited in its potential effects on the broad problem.

Course design

In the attempt to meet the requirement of the guidelines that courses should take account of local labour markets, the initiative for suggestions for courses and for their design sprang often from the college level. Given that this has not been the traditional role of colleges, particularly for occupational courses, the Program provided valuable opportunities for TAFE personnel to develop new skills and to expand their understanding of local labour markets. In doing this, new relationships were created between colleges, schools, employers and the CES, and even between the colleges and their own head offices.

In addition, the search for appropriate curriculum initiatives for the Program led to interesting new approaches to occupational curricula design. The stimulus for this debate sprang from the problem of needing to create courses that would have employment benefits for participants within a labour market where semi-skilled jobs have been shrinking in number and have become increasingly likely not to offer long-term employment. Thus the search for appropriate courses led to the examination of more broad-based curricula.

Staff development

The history of the Program provides an excellent case study in policy implementation. To students of policy implementation theory, it will come as no surprise that despite clear policy statements and guidelines and appropriate administrative structures, the success of the Program has hinged on the capacity of the staff involved at the point of delivery.

In this respect, one of the most notable features of the Program was the staff development effort made within the Program. The Commonwealth deserves recognition for its funding of an array of staff development exercises within the Program which were used not only to raise awareness of policy, but also to develop new skills. There has been no other single program in TAFE that has made such an attempt to involve all levels of staff in appropriate staff development activities and to bring them together at the local, regional, State and national levels.

Regional co-ordination

If programs such as the TAFE Transition Program are to be as effective as possible, they must be based on a firm grasp of local needs, they must have the co-operation of the relevant local parties, and above all they must be co-ordinated with the other programs that together form the total strategy for the implementation of the policy.

Though the TAFE Program reflected local needs and engaged the co-operation of the relevant local parties, there was not a high degree of co-ordination with the other State, Commonwealth and private initiatives in the transition field. Clear examples of duplication of effort, conflict and a lack of comprehensiveness can be found; examples which meant that young people were not able to get all the help the resources available could have given them.

Though it is in the nature of things that initiatives in response to complex problems tend to develop in a piecemeal fashion, particularly if responsibilities are shared, it is unfortunate that this should have occurred with the Transition Program where the original policy statements displayed such a clear grasp of the breadth of the problem and the need for a co-ordinated effort to respond to it.

CONCLUSIONS

The TAFE Transition Program was a valuable if small part of an attempt to tackle the broad and complex problem of improving opportunities in the transition process. Apart from creating opportunities for those young people who participated in courses, the Program had positive effects on TAFE in that it stimulated local initiatives and led to innovations in course design, course delivery and administrative structures as well as stimulating new skills in TAFE through the comprehensive staff development activities it engendered.

A less obvious but also important benefit of the Program was its effects on TAFE teachers as they came in contact increasingly with the unemployed. From this contact, many teachers had to reassess their attitudes as well as develop new skills.

Though the Transition Program was seen by many TAFE teachers initially as an incongruous part of TAFE activities, after four years it was accepted as an integral part of the effort of TAFE to meet community needs and formed the basis on which the P.E.P. program was later developed.

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